FRICK CO. GETS CONTRACT

MANCHESTER, Conn.—Frick Co. will install ice-making machinery in L. T. Wood's new plant, here.

CONFERENCE PLANNED ON AIR CONDITIONING

CLEVELAND—Air conditioning has been selected as the subject for the third three-day Industrial Conference to be held March 17-19 on the campus of the Case School of Applied Science, according to Prof. G. L. Tuve, general chairman. The meeting is sponsored jointly by Case School and the Cleveland Engineering Society.

The purpose of the conference, according to Prof. Tuve, is two-fold. Some of the sessions will pertain to the conditioning of air for human comfort. The remainder of the conference will deal with industrial processes requiring controlled air conditions.

In brief, the program will resolve itself into a three-day school for the purpose of studying the fundamental principles of air conditioning.

While the program will emphasize new developments in this field, a series of demonstrations and exhibits are also being arranged to make the conference complete in detail, Prof. Tuve states.

The following are topics which will be presented at the meeting.

1. Principles of Air Conditioning—A brief presentation including the use of psychrometric charts, calculation of heat requirements, and such new developments as the reversed refrigeration cycle.

2. The "Unit Processes" in Air Conditioning—A comparison of dehumidification by refrigeration, by calcium chloride and by silica gel. Space cooling with ice. Air pollution and its relation to air conditioning. Selection of heat transfer units for heating and cooling of air.

3. Features in the Design of Air Conditioning Systems—A critical study of methods of air distribution. Instruments and control devices applied to air conditioning. The relation of air conditioning to building construction.

4. Industrial Air Conditioning — Air conditioning in the storage and transportation of perishables. Air conditioning requirements of specific industries.

5. Air Conditioning for Human Comfort—Relation of outdoor and indoor air conditions to health and comfort. Air conditioning in private homes and apartments. Air conditioning in schools and public buildings. The "Unit Air Conditioner" for single rooms.

METHYL CHLORIDE USED IN MACY REFRIGERATOR

NEW YORK CITY—Methyl chloride is the refrigerant in the five models of electric refrigerators now being sold by the R. H. Macy & Co., Inc., large New York City department store.

The refrigerators come in three colors —white, green, and ivory, the latter two being the standard Macy kitchen colors. The cabinet is lacquer finished. The machine is located in the top of the cabinet.

"We have developed our own service organization," states L. D. Jalkut of the Macy store. "Thirty men are spotted throughout our trading territory. Should a service call be necessary the customer telephones our service head and he relays the call to the man in the district who is in touch with the central office at periodic intervals. Should major repairs be necessary, a new unit is sent to the customer and the old one is returned to the warehouse for servicing."

Sliding shelves, a porcelain finished evaporator, and temperature controls are features of the units.

The compressor is direct connected to the motor by a shaft to which is attached a fan which cools the refrigerant.

Model 4, designed especially for apartment house installations, has a shelf area of 8.90 sq. ft., has a capacity of 4.5 cu. ft., makes 49 ice cubes, and is 25 in. wide, 21 in. deep, and 58 in. high.

Model 5 has an interior capacity of 5.75 cu. ft., a shelf area of 9 sq. ft., makes 49 ice cubes, and is 28 in. wide, 23¾ in. deep, and 61¾ in. high.

Model 7 has a capacity of 7 cu. ft., has a shelf area of 12.08 sq. ft., makes 77 cubes, and is 32¼ in. wide, 23¾ in. deep, and 61¾ in. high.

Model 9 has an interior capacity of 9 cu. ft., has a shelf area of 14.55 sq. ft., makes 105 cubes, and is 39½ in. wide, 23¾ in. deep, and 61¾ in. high.

Model 11 has a capacity of 11 cu. ft., has a shelf area of 18.35 sq. ft., makes 161 cubes, and is 47 in. wide, 23¾ in. deep, and 61¾ in. high.

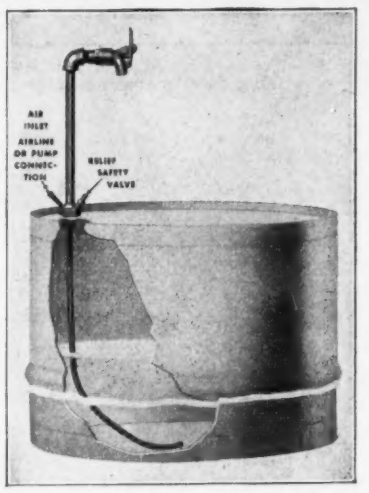
All are equipped with a rubber ice tray and vegetable dish.

PARAMOUNT PUBLIX BUYS G. E. WATER COOLERS

NEW YORK CITY—General Electric pressure water coolers have been installed in the Paramount Publix theatres throughout the country, following a sale made by A. Mortimer Prall of Rex Cole, Inc.

One of the most recent installations was that of five DP-3 coolers for the Southtown Theatre, Sixty-third St. and Wallace Ave., Chicago.

Liquid Dispenser



IMPERIAL BRASS DEVISES NEW LIQUID DISPENSER

CHICAGO—Imperial Brass Mfg. Co., here, has just introduced a new liquid dispenser for serving alcohol, turpentine, oils, liquid chemicals or other industrial liquids from steel tanks.

The new dispenser includes a flexible tube which extends from the bottom of a tank up to a brass fitting which is fastened through the top of the drum. Air pressure is applied to the inside of the tank through a Schrader valve, while a safety valve opens should the interior pressure exceed 25 lbs.

Liquid is drawn by pushing the handle of the faucet which passes an ample stream of the fluid, Imperial Brass engineers report. The faucet is the Sette type, with a metal-to-metal seat.

All of the liquid in a drum can be removed without tipping or tilting, manufacturers of the dispensing device claim. The dispenser lists at $2.50.

TRUCK COOLED, POWERED BY NEW SHELL PETROGAS

LOS ANGELES—The Shell Oil Co. has developed a process of refrigeration using a new motor fuel known as Shell Petrogas, it announces, for first cooling a refrigerated truck and then driving it by its regular engine.

D. W. Davisson, manager of the automotive department, and F. G. Welke, experimental engineer, developed the process. Perishable products requiring low temperatures down to -25° can be transported, they claim.

A quantity of Shell Petrogas is held under pressure at atmospheric temperature. A fuel line leads from the storage tank to a high regulator through which the fuel flows in liquid form. From the regulator it goes to a series of expansion coils, where it expands to a gas, thus absorbing heat from the interior of the truck.

The fuel then goes to the low pressure regulator and the pressure is reduced to the vacuum, which exists in the intake manifold of the motor. Next it proceeds to the carburetor and is consumed by the motor.

The fuel system is as automatic as the gasoline system, and can be installed on a truck without making any alterations other than to put in a gaseous fuel adapter to any standard carburetor, Shell engineers say.

Besides being used to cool trucks, it can be used to condition air on motor busses, yachts, and dining cars, they believe.

The first installation was made on a meat truck for Tiedemann-Harris of San Francisco. The interior temperature was reduced 25° F. in a run of an hour, according to the report. Mileage costs on fuel are about the same as gasoline.

The device will be marketed soon, according to Shell Oil officials. The fuel has anti-knock qualities, absence of crankcase dilution, and no detonation, they claim.

A. M. WORTLEY PROMOTED BY ARMCO

PHILADELPHIA—A. M. Wortley of the Philadelphia sales staff, American Rolling Mill Co., has been appointed assistant manager of the local office, which is now under the supervision of the New York office.

William S. Stephenson, formerly district manager of sales here, has resigned.

FRIGIDAIRE INSTALLS 96 MULTIPLE UNITS

LOS ANGELES—Hazelrigg, Foy & Candee, Frigidaire dealer, has completed the installation of 96 multiple units in the modernized properties of the Hoover Hotel and Apartments Co., operators of apartment houses, located on S. Hope St. and S. Figueroa St.

COOL FOODS EQUIPMENT CO. TO BUILD MARKET CASES

CLINTON, Mass.—Cool Foods Equipment, Inc., has started production on a new line of freezer cases, delicatessen cases, chef boxes, walk-in coolers and milk coolers. Since this company took over the plant of the old Fridgrite Co. last August, a new line of products has been developed.

Plant capacity will be sufficient to keep 50 men employed when operations are under full headway, according to M. C. Knight, president and general manager.

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Air Conditioning Topic Of Cleveland Meeting

Exhibits, Technical Sessions Stress Air Treatment; June A.S.R.E. Meeting in Boston

By John T. Schaefer

CLEVELAND—Air conditioning drew the attention of members of the American Society of Refrigerating Engineers and the American Society of Heating and Ventilating Engineers last week when the two societies held their annual conventions concurrently here, meeting together in three special sessions devoted to new developments and ideas in air conditioning.

Refrigerating engineers met in the ballroom of the Hotel Cleveland, while heating and ventilating engineers maintained headquarters at the Statler hotel. Joint sessions were held in the Little Theatre of the Cleveland auditorium.

Throughout the week manufacturers of conditioning systems and supplies displayed and demonstrated their products at the Second International Heating & Ventilating Exposition in the Cleveland Auditorium Annex.

Plans were laid during the A.S.R.E. council meeting on Monday night, Jan 25, to hold the spring meeting of the society late in June at Boston. Everett R. Ryan, head of engineering of the Boston Frigidaire organization, extended an invitation to all engineers to attend the spring meeting, explaining that housing facilities will be available in the dormitories of the Massachusetts Institute of Technology.

With last week's sessions, A. H. Baer, sales manager of the Frick Co., Waynesboro, Pa., was retired as president of the A.S.R.E., being succeeded by Glenn Muffly, N.E.M.A. code expert and consulting engineer for Copeland Products, Inc.

Registration of the delegates began at 10 o'clock Tuesday morning, followed by a luncheon at which welcome talks were made by Mr. Baer and D. F. Keith, chairman of the Cleveland committee in charge of local arrangements. Other members of the local committee were H. E. Bollinger, H. B. Matzen, D. H. Scott, E. D. Smith, W. M. Timmerman, Mrs. Keith, and Mrs. Scott.

Technical sessions began in the afternoon with papers by J. L. Gregg of the Battelle Memorial Institute, Columbus, Ohio, on metal foil insulations; Dr. A. W. Ewell of the Worcester Polytechnic Institute on refrigeration and food practices in Europe, and by Edward Hughes, vice president in charge of production of Copeland Products, Inc., on the pro-

(Concluded on Page 2, Column 1)

Convention Reports

Reports of technical sessions of the A.S.R.E. convention will appear in next week's issue of the *Engineering Section* of the NEWS. Lack of space in this issue precludes the publication of complete accounts which the meetings deserve.

Presides

CLAUDE H. WOLFE
President of Frigidaire Quota Club Congress which met in Dayton.

FRIGIDAIRE MARKETS LOW-PRICE MORAINES

DAYTON—The Frigidaire Corp., in meetings held last week before 15,000 dealers and salesmen throughout the country, announced a new line of refrigerators, called the Moraine line.

The new line will be sold through present Frigidaire outlets and by new dealers who will be given franchises in the near future, some of these dealers handling only the Moraine line while others will display and stock the regular all-porcelain line as well, according to announcements made by Frigidaire officials.

There are three models in the line, 4-, 5-, and 6-cu. ft. boxes, the smallest retailing for $160 f.o.b. Dayton. The exterior of the cabinets is finished in Durable Duco (five coats of Duco) and the interior is all-porcelain. A twin-cylinder compressor, chromium plated hardware, and a porcelain-fronted freez-

(Concluded on Page 19, Column 3)

FRIGIDAIRE CLUB LAYS '32 SALES CAMPAIGN PLANS

Leading Salesmen Seek Bigger Percentage Of Business

By Gertrude Stanton

DAYTON, Jan. 29.—A bigger percentage of the total electric refrigeration business for Frigidaire than last year, and added earnings by salesmen, dealers, and other field outlet men, was the plank in the platform for 1932 presented to Frigidaire's star salesmen at the annual B.t.u. Quota Club Congress which closed here this afternoon.

H. W. Newell, formerly manager of the Frigidaire Corp. of New England, directed the two-day session in his first appearance before field representatives as vice president in charge of sales. His personal platform, consisting of the two points already mentioned, was the keynote of the convention.

Two hundred salesmen, high men in their sales districts from all parts of the United States, and honored guests of the corporation, were present at the first session yesterday morning in the Biltmore hotel. W. G. Powers of the sales department of General Motors Corp. acted as master of ceremonies for the convention, and opened the session with mass singing.

H. C. Jamerson, sales manager of the household division, welcomed the men and introduced various factory executives preceding the introduction and installation of the club officers.

Claude H. Wolfe, salesman from Tampa, Fla., was installed as president, qualifying as high man from the district which stood highest in quota of units sold during 1931. The Tampa district sold 150 per cent quota. Second was the Miami, Fla., district, with 132 per cent quota. Cecil E. Kirby, as high man from that district, became vice president.

Together with these two officers, who were installed and seated on a raised dais on the platform, eight "cabinet members," representing the eight districts standing next high, were inducted into office. These men were: T. F. O'Keefe, of Freeport, N. Y.; R. M. Hall, of Martinsburg, W. Va.; W. W. Lewis, Roanoke, Va.; J. E. Pemberton, Pawtucket, R. I.; O. E. Ross, Davenport, Iowa; W. J. Laperouse, Galveston, Tex.; George McMullen, Mitchell, S. D., and P. D. Sims, of Lovell, Wyo.

(Concluded on Page 15, Column 1)

DETROIT ENGINEERS WILL HEAR SPECIALISTS TALK ON REFRIGERATED TRUCKS

DETROIT—Refrigeration engineers in all parts of the country who have had specialized experience with refrigerated trucks are being invited to take part in a conference to be held under the auspices of the Detroit section, American Society of Refrigeration Engineers at Webster Hall, Monday afternoon and evening, Feb. 15.

The round table discussion will start at 2 p. m. There will be a dinner at 7 and evening session at 8 p. m. The meeting is open to all. F. M. Cockrell, publisher of ELECTRIC REFRIGERATION NEWS, will be chairman.

TEXAS DISTRIBUTOR WINS NORGE OPPORTUNITY RACE

DETROIT—Automatic Sales Co., Houston, Tex., won the Howard E. Blood trophy in the Norge Christmas Opportunity campaign, according to John H. Knapp, Norge vice president in charge of sales.

The Texas company was in the lead from the start of the contest on Oct. 15 until the close, Dec. 15. The company sold 201.8 per cent of its quota.

Presentation of the trophy will be made at the dealer-distributor meeting to be held in Houston soon. Second place was won by San Francisco, the west coast organization selling 195.3 per cent of its quota.

Philadelphia was third, New York City, fourth, and Waterloo, Iowa, fifth.

William M. Wood, contest manager for the Houston distributor, will receive a wrist watch for winning the contest.

Majestic Distributors To Push Refrigeration

Compton Urges Outlets to Establish Separate Departments at Annual Convention

By George F. Taubeneck

CHICAGO—"You must become electric refrigeration distributors in every sense of the word. To compete successfully with the fast-moving refrigeration industry today you must concentrate on that field. Electric refrigeration has become a 12-months' business. You will need separate departments for refrigerators and radios."

Delivered by Don M. Compton, vice president and general manager of the Grigsby-Grunow Co., to some 90 men representing 41 Majestic distributors, these sentences represented the theme of the Majestic convention on refrigeration held here Thursday and Friday, Jan. 28 and 29.

All Majestic distributors west of Omaha will meet in a separate convention Feb. 10 at Del Monte, Calif.

B. J. Grigsby, president and chairman of the board of the Grigsby-Grunow Co., announced that Majestic had joined the refrigeration division of the National Electrical Manufacturers Association.

Concurring with Mr. Compton on the necessity of concentrating on refrigeration, Mr. Grigsby pointed out that the Grigsby-Grunow Co. now has entirely separate sales, engineering, and manufacturing departments—headed by experienced refrigeration men—for Majestic electric refrigerators.

"When we first entered the refrigeration business it was our notion that radios and refrigerators could be sold in opposite selling seasons, thus straightening out our sales curve," said Mr. Grigsby.

"We discovered that refrigeration was becoming a year-round business, that it required specialized treatment and methods, and separate organizations. We have them now, and are all set to get our share of the refrigeration business in 1932," he averred.

Introduced by W. G. Pierce, assistant to the general manager, was the 1932 Majestic line, which includes 4-, 5-, 6-, 7-, 10-, and 12-cu. ft. models.

In appearance these models are quite similar to previous Majestic models, although some are finished in porcelain

(Concluded on Page 19, Column 4)

Joins NEMA

B. J. GRIGSBY
President, Grigsby-Grunow Co., is a new member of NEMA division.

WINNERS ANNOUNCED IN BUREAU CONTEST

NEW YORK CITY—Winners of six $100 prizes in the Holiday display contest of the Electric Refrigeration Bureau were determined at a recent meeting of the contest judges here.

The following were awarded prizes:

Window display, less than 50 sq. ft.—Connecticut Light & Power Co., New Britain, Conn.

Windor display, 51 to 100 sq. ft.—Buffalo General Electric Co., Buffalo.

Window display, over 100 sq ft.—Western Counties Electric Co., Amherst, Mass.

Store interior display, less than 200 sq. ft.—Fitchburg Gas & Electric Light Co., Fitchburg, Mass.

Store interior display, 201 to 400 sq. ft.—Pennsylvania Power & Light Co., Allentown, Pa.

Store interior display, over 400 sq. ft.—

(Concluded on Page 19, Column 3)

MAYFLOWER OF CANADA STARTS MANUFACTURING

DAYTON—Production of Mayflower refrigerator household models for Canadian distribution was started Jan. 1 by Mayflower Corp. of Canada, Ltd. The new manufacturing plant is located at Hamilton, Ont.

In charge of the branch factory of Trupar Mfg. Co., Dayton, the maker of Mayflower, is Frederick White, who has had extensive manufacturing experience. Mayflower period design household models only are to be built in Canada.

The growing volume of business from Canada has made this step advisable, states Harry J. Hunt, president of Trupar.

Westinghouse Distributor Gets Additional Territory

By Phil B. Redeker

CHICAGO—The Frank H. Johnson-Son-Crowen, Inc., Westinghouse distributor for Chicago, has recently received additional territory increasing the former set-up of that organization from 2½ counties to 37 counties.

The new territory includes most of the counties in northern Illinois, and northern Indiana, and a few in the southwest corner of the state of Michigan.

The distributor is planning to handle this broad territory through the establishment of key dealerships, which will establish and operate sub-dealerships, according to Miss Helen Ratcliffe, sales promotion manager for Frank Johnson-Son-Crowen, Inc.

Three of these key dealerships have been established. These are the Lee McDonough Co., Waukegan, Ill.; May Electric Co., Aurora, Ill.; and Modern Appliance Co., Hammond, Ind.

Announcement has also been made of some changes in the personnel of the distributorship. George Johnson has been named vice president; R. M. Duneberg, assistant to the president; U. S. Dickerson, dealer manager; A. S. Irvine, assistant dealer manager.

In addition to organizing its forces in the new territory, the Chicago Westinghouse distributing organization is getting ready for a concentrated Spring drive. Training schools for salesmen are being held every Thursday, Friday and Saturday with one man giving full time to the training work.

The organization expects to have a minimum of 125 trained salesmen working in the Chicago area by March 1, an increase of 50 per cent over last year's force, Miss Ratcliffe states.

Four retail stores are being set up, in Evanston, Oak Park, on Irving Park Blvd., and at 79th St. and Ashland Blvd. Salesmen gather at these retail stores in the morning to get instructions from the store manager as to the calls they are to make or the territories which they are to canvass that day.

Norge Introduces 1932 Line At 50 Distributor Meetings

By John R. Adams

DETROIT—Few changes mark the 1932 Norge line of domestic electric refrigerators which is being introduced at a series of 50 distributor-dealer meetings in key cities throughout the country.

Introducing the line for the first time at a meeting of dealers of the Republic Radio Corp., Michigan distributor, executives of the company including Major Howard Blood, president, and John H. Knapp, vice president in charge of sales, outlined the improvements in the three sizes, told of an 11-cu. ft. model which will be placed on the market in March, and gave in detail sales promotion and advertising plans for 1932.

The Detroit company's line consists of three models, two of them available in both porcelain and lacquer, and the third, being sold in porcelain cabinet only.

Mr. Blood, in telling about the new line, introduced a new ice tray which is equipped with a cover and grids attached to the cover making bars of ice instead of cubes. The models are also equipped with a preservoir for frozen foods and defrosting and a watervoir for cooling drinking water.

On the exterior of the cabinets, Norge has increased the depth of the top flange and used more massive hinges and latches. The shield and baffle has been made of one piece with rounded corners and on it, the nine-speed freezing control has been placed.

Shelves in the new models are of the flat bar type. A half shelf is placed at the top for bottled goods and a bottle insert is used in the bottom shelf. The inner tank of the cabinet is made of acid-resisting porcelain.

"The 11-cu. ft. model, which we will put on the market in March," Mr. Blood said, "will be equipped with porcelain shelves. We have had many demands for a large model."

Mr. Knapp told of the improvements

(Concluded on Page 19, Column 3)

AIR CONDITIONING IS ASRE SHOW FEATURE

(*Concluded from Page 1, Column 1*)

duction problems of refrigerating machines.

Harry Harrison of the Brunswick-Kroeschell Co. presided over the student prize session Tuesday night, first pointing out that the A.S.R.E. student prizes are offered each year to encourage the study of refrigeration in colleges, to promote closer cooperation between the industry and colleges, to foster the spirit of research on refrigeration subjects, and to develop public speaking among engineering students.

Student Prize Session

Dr. W. E. Wickenden, president of the Case School of Applied Science spoke next on the "Relation Between the Colleges and Technical Societies." He traced the growth of engineering societies, stressing the importance of education to both colleges and the societies, and declaring that engineering has recently become more functional than professional as evidenced by the large number of engineering graduates who enter executive positions.

Student papers were then presented by S. L. Elmer, Jr., of Cornell University of "Ice Formation on Pipe Surfaces"; L. H. Frazer, Jr., of the Massachusetts Institute of Technology on "The Vapor Pressure of Ammonia Above Solutions of Ammonium Thiocyanate"; and by H. F. Irving of the University of Illinois on "Horsepower Per Ton of Refrigeration on Small Ammonia Compressors."

The committee on student prizes met during the next day and decided, in time for announcement at the Wednesday night banquet, that the $300 contributed by the Frick Co. for this year's fund would be divided equally among the three students because they all represented intelligent work and were ably presented.

Air conditioning took the center of the stage Wednesday morning when the two societies met in the Little Theatre of the Cleveland Auditorium with W. H. Carrier, president of the A.S.H.V.E., in the chair.

Air Conditioning Papers

The first paper was given by C. P. Yaglou of the Harvard School of Public Health, Boston, on "Changes in Ionic Content of Air in Occupied Rooms Ventilated by Natural and by Mechanical Methods," followed by S. S. Sanford of the Detroit Edison Co. on "Field Studies of Office Building Cooling," based on operated experience with the air conditioning plant in the Union Guardian Building, Detroit.

V. O. Knudsen, associate professor of physics at the University of California at Los Angeles, next discussed acoustical problems in heating and ventilating buildings, followed by F. C. Houghten, director of the A.S.H.V.E. research laboratory, Pittsburgh, on "Heat Transmission as Influenced by Heat Capacity and Solar Radiation."

Muffly in the Chair

Conventioneers moved over to the ballroom of the Hotel Cleveland for the second air conditioning session that afternoon with Glenn Muffly in the chair. R. T. Brizzolara, consulting engineer of New York City, first presented a survey of ice for air cooling applications, followed by E. D. Milener of the American Gas Association who explained recent developments in summer home cooling with Silica Gel.

To conclude the technical meetings of the day, A. W. Oakley of New York City, A.S.R.E. vice president, gave a paper on "Refrigerator Car Surface Temperatures" which had been prepared by W. J. Hukill, assistant mechanical engineer of the bureau of agricultural engineering of the U. S. Department of Agriculture, Washington, D. C.

The weightier problems of refrigerating engineering and its applications were dismissed that night for the annual A.S.R.E. Jamboree in the Hotel Cleveland. Mr. Baer and Mr. Muffly each spoke briefly, then Charles M. Newcomb gave a humorous classification of the various types of fear, in a talk on "What Are You Afraid of?"

Classifies Fears

Replete with witticisms and puns tied up with refrigerating engineering, Mr. Newcomb pointed out that fear of accident, fear of disease, fear of loss, fear of neighbors' displeasure, excessive fear of failure, and fear of the unknown are the most prominent brands of fear.

"The courageous man is the one who proceeds intelligently with full knowledge of the dangers that beset his course," he declared.

Entertainment by the Venetian Trio enlivened the dinner, while music by the Revellers orchestra encouraged dancing until 1 a. m.

Stevenson's Talk

The last joint air conditioning meeting was again staged in the Little Theatre Thursday morning when the engineers gathered to hear A. R. Stevenson, Jr., of the General Electric Co., Schenectady, N. Y., give the paper which he had prepared with the assistance of F. H. Faust and E. W. Roessler (General Electric engineers), on heating and cooling of homes by the reversed refrigeration cycle. Mr. Baer presided.

Next Dr. S. C. Prescott, head of the department of biology and public health at M.I.T. spoke on bacteria as affected by temperature, showing the relative activity of various microbes in various temperatures.

Presentation of a new psychrometric chart for lower temperatures than had previously been used in such charts was then made by Claude A. Bulkeley, chief engineer of the Niagara Blower Co., New York City.

Back in the Hotel Cleveland ballroom, refrigerating engineers devoted the afternoon to industrial refrigeration. The characteristics and application of two-speed synchronous motors were given by R. C. Allen of the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Then F. W. Laverty of Clark Bros. Co., Olean, N. Y., gave a paper on "Natural Gas in the Refrigerating Plant," and C. R. Neeson of Baldwin-Southwark Corp., Philadelphia, discussed oil engine compression costs in refrigeration operation.

Entertainment for the Ladies

Varied entertainment was provided for the wives of visiting refrigerating engineers. Monday afternoon Mrs. A. H. Baer and Mrs. Glenn Muffly poured at tea in their hotel suite, while Monday night the A.S.R.E. delegation gathered in an informal get-together with the A.S.H.V.E. for "Monte Carlo" night at the Hotel Statler.

Fortune telling, gaming, side shows, and professional interpretative dancing were offered.

Other entertainment organized for the ladies during the week included a Wednesday luncheon in the Higbee tea room, visits to the Cleveland Art Museum and Severance Hall, a bus trip to Akron, Ohio, to view the new sister ship of the Akron's sister airship, a visit to the "Home in the Sky" maintained by the Electrical League of Cleveland in the Builders' Exchange Building to show modern home-building materials and labor-saving appliances, a bridge and tea given by the Cleveland Chamber of Commerce in the Terminal Tower, and a showing of "Red Rust" in Cleveland's Playhouse.

Convention Exhibits

New equipment for cooling, humidifying, dehumidifying, circulation, cleaning, and heating air for human comfort was displayed in exhibits of the International Heating and Ventilating Exposition which closed a five-day show Friday night, Jan. 29.

Exhibitors reported that sales were much better than had been anticipated, and the attendance was far greater than that of the first exposition held two years ago in Philadelphia, according to Exposition Manager C. F. Roth of the International Exposition Co., New York City.

In addition to delegates to conventions of the two societies, attendants at the exhibition included heating and ventilating contractors and dealers, plumbing contractors, home owners, public utility representatives, architects, builders, electrical engineers, university people, and many others.

Refrigerating Machines Shown

Refrigerating machines for air conditioning work were shown in booths of the following companies: Carbondale Machine Co., Carrier Engineering Corp., Copeland Products, Inc., Frick Co., Frigidaire Corp., and the York Ice Machinery Corp.

Two 1-ton Carbondale Excelsior machines were displayed in the Carbondale booth. One was supplying liquid ammonia to the "Zephyr 75" air conditioner in the adjoining booth of Air-Control Systems, Inc.

Carbondale representatives present during the show included Henry Torrence, president; E. M. Holcombe, vice president; Arthur Magher, manager of the midwestern district, Chicago; Henry Botchford, Buffalo manager; Arthur Roe, Pittsburgh manager; Arthur Meyer, Cincinnati manager; E. Zuckerman, engineer from Chicago; and N. M. Turner, erecting engineer, Cleveland.

Carrier Equipment

In the exhibit space of the Carrier Engineering Corp. appeared the Carrier "Weathermaker," a unit air conditioner (operating), a "Cold Diffuser," a Kroy heat diffusing unit, a ¾-ton B-K Junior methyl chloride condensing unit, an Atmospheric Cabinet, a home humidifier, and a Carrier centrifugal refrigerating machine as used in theatre air conditioning.

Among the Carrier people from the home office in Newark were W. H. Carrier, president; J. I. Lyle, vice president; R. H. Waterfill; Thornton Lewis; M. S. Smith, V. S. Day; and Miss Margaret Engels.

Carrier district office representatives were E. P. Heckel and John Hale of Chicago; Tom Cunningham, Dallas, Tex.; H. Rudio, Cincinnati; S. P. Eagleton, C. Brandt, and B. Thornton of Pittsburgh; and Herbert Peacock, Charles Wert, H. B. Forbes, Sprague Jones, and M. Foley of the Cleveland office.

A cut-away model of the new "Dreadnought" 1-ton condensing unit recently introduced by Copeland Products, Inc., was prominently displayed in the Copeland booth as a machine suitable for air conditioning installations.

Also on exhibit in the Copeland booth was a room cooler operating from a Copeland model X condensing unit, and a water cooler from which delegates were invited to draw a drink.

Manning the Copeland exhibit were A. L. Bogue and Henri Brysselbout, Copeland engineers from the main office in Mt. Clemens, Mich.

In the exhibit of the Frick Co. was a 5x5-in. two-cylinder ammonia compressor and a 3¾x5-in. carbon dioxide condensing unit. Frick representatives at the show included A. H. Baer, sales manager; Frank Zumbro, electrical engineer; R. H. Whittaker, chief draftsman; and S. G. Etter, erecting engineer.

The complete new line of air conditioners just introduced by Frigidaire Corp. were shown in the Frigidaire booth, where air conditioning engineers from the Dayton plant were on hand to explain their features.

Included in the exhibit were the model V-1 vertiflow air conditioner, model V-3 equipped with a heating coil, the H-3 similar to the V-3 but built in a horizontal cabinet, and the C-3 cooler designed for ceiling suspension.

To demonstrate the electrical arrangement by which either of two air conditioners can be operated one at a time from one condensing unit sized for only one, the switching arrangement was installed in the booth. The plan contemplates the home owner cooling a downstairs living room during the day, and by throwing the switch at night, to cut out the downstairs cooler and start another upstairs.

Also shown was the Frigidaire portable self-contained dehumidifier for removing moisture from the air in the summer. The equipment is housed in a steel cabinet, and mounted on rubber-tired wheels for moving around a floor.

New Frigidaire Water Cooling Tank

A new development of the Frigidaire organization on display at the show was the T-500 water cooling tank for industrial water cooling systems and air conditioning equipment which employs cold water for cooling. According to the designers it will reduce 45 gallons of water per hour from 80 to 50° F.

Provision is also made for air cooling through the warm air heating ducts of a home by placing a special cooling coil in a warm air furnace, and reducing temperatures of the air circulated throughout a home by a circulating fan.

A 3-ton F-12 condensing unit was also shown in the exhibit, as a machine intended for air conditioning installations.

Frigidaire representatives attending the convention or the exposition included E. G. Biechler, president and general manager; E. R. Godfrey, vice president in charge of manufacturing; E. B. Newill, vice president in charge of engineering; R. F. Callaway, Faraday vice president; B. B. Geyer, president of the Geyer Co.

H. M. Williams and H. B. Hull, research engineers; F. C. Lyons, sales department; B. J. Lucey, sales department; D. E. Dascher, air conditioning engineer; Donald Reeves, research engineer; L. E. Smith, sales engineer; H. R. Lorranger, sales department.

Frigidaire Men Present

Paul Bunger, advertising department; Donald Frank, air conditioning engineer; W. G. Winkler, air conditioning engineer; R. E. Robillard, sales engineer; D. C. McCoy, sales engineer; B. VanPatten, foreign department; W. E. Saylor, publicity; and W. G. Irwin, publicity.

From district sales offices were Hugh Wehrley, regional manager of the North Central area, Chicago; and C. R. Lewis, in charge of air conditioning work at the Detroit office.

A model installation approximating that made for air conditioning Pullman cars was set up and operating in the exhibit of the York Ice Machinery Corp., York, Pa. Operating with Freon (F-12) refrigerant, the 3x3 in. twin-cylinder York compressor was delivering approximately 3½ tons of refrigeration to the cooling unit.

The air cooling unit is rated at 1800 cu. ft. per minute, according to York engineers. Cooling is effected by direct expansion of the refrigerant into coils regulated by the York liquid float control. A feature of the exhibit was the new York air-cooled condenser used in connection with the equipment.

York Representatives

York representatives included J. L. Rosenmiller, sales promotion manager; L. S. Morse, engineer; S. H. Shipley, research engineer; and the following men from branch offices:

W. L. Hutton, manager of the St. Louis branch; Louis DuBois, chief of air conditioning work in St. Louis; R. A. Stencel, assistant branch manager of the Toronto branch; J. A. Schurman, head of air conditioning in Cleveland (in charge of booth); John Schurman, central regional manager, Cleveland; and Anker Winther, air conditioning engineer from Cincinnati.

Air conditioning with particular emphasis on dehumidification was demonstrated in equipment for the home shown in the booths of the Silica Gel Corp. The unit is a development resulting from cooperative investigations by the committee of industrial gas research of the American Gas Association.

The Silica Gel air gas-fired conditioner produces 400 cu. ft. of air per minute with a relative humidity ranging from 5 to 10 per cent, its temperature being reduced somewhat by tap water in finned tubing or by the evaporative effect of water, and circulated throughout the house with 2600 cu. ft. of air at regular humidities, according to J. C. Patterson, in charge of the booth. Details of this system will be published in an

(*Concluded on Page 6, Column 1*)

How To Get Prospects

As Told by E. G. Charter, Detroit Copeland Company

By Phil B. Redeker

DETROIT—"Banks, trust and finance companies are proving to be about the best prospects at present in the apartment house field," states E. G. Charter, supervisor, apartment house division, Copeland Refrigeration Co. of Detroit.

"With the present turbulent condition of the real estate business, it is hard to nail a landlord who believes that he is going to hang onto an apartment which he may own long enough to make any improvements worth while," Charter says.

"Sometimes you may deal with four different landlords of the same apartment in one month. I have carefully led up to a closing sales talk in one day's interview, only to return the next to find that the building has a new owner.

Must Improve Property

"When the property finally devolves to some bank or financial organization, they become real prospects, because for them to realize anything on this property they must improve it and refurnish it so that they will be able to rent it or sell it.

"These organizations, then, make the best type of prospects that we can contact. The man that contacts all of them to a very high degree, is very fortunate, but most of us find that we can do best by concentrating on one or two of the more prominent ones, while maintaining some sort of contact with the others."

Architects constitute good sources for prospects because their specifications and drawings often show floor area allowed for refrigeration, Charter points out. As soon as the apartment house salesman can find this out, he can prepare to approach the prospect with the exact model that will be needed for the particular building.

Architects and building associations often furnish tips as to prospective building activities which sometimes result in the refrigeration being contracted before the building is actually constructed.

Real estate and contracting firms which build new apartment houses that they intend to rent out themselves constitute one form of prospect, but as most apartment house construction and renting is being carried out by large finance companies rather than the individual entrepreneur, the latter represents but a small portion of the prospect list, Mr. Charter declares.

SEVEN NEW DISTRIBUTORS FOR LEONARD APPOINTED

DETROIT—Seven new distributors for Leonard electric refrigerators, all of them also in the radio business, have been announced by R. I. Petrie, sales manager of the Leonard Refrigerator Co.

The Aeolian Co. of Missouri, has been located at 1004 Olive St., St. Louis, for 25 years. President of the concern is W. P. Crisler, who has headed the company since 1905, and vice president in charge of merchandise is Harry B. Levy.

The other additions to the distributor list are: Interstate Electric Co., Shreveport, La.; How & Co., Boston; Columbus Ignition Co., Columbus, Ohio; B. W. Smith, Inc., Cleveland; E. S. & E. Co., Albany, N. Y.; A. A. Schneiderhahn Co., Des Moines, Iowa.

With 'Toppers' in Bermuda

Officials of Rex Cole, Inc., New York distributor for General Electric refrigerators, greet P. B. Zimmerman (second from left), manager, G. E. refrigeration department, on his arrival in Bermuda.

FRIGIDAIRE DEALER OPENS BRANCH STORE

SPRINGFIELD, Mass.—Springfield Home Utilities Corp., Frigidaire dealer, has opened a branch at 241 Maple St., Holyoke.

98% OF GENERAL ELECTRIC OUTLETS EARN NET PROFIT

CLEVELAND—Approximately 98 per cent of the dealer outlets for General Electric refrigerators reported net profits for 1931, according to A. A. Uhalt, manager of the dealer division, in a year-end statement.

Only a little more than two per cent of General Electric refrigerator dealers dropped the General Electric line and either joined other refrigerator manufacturing concerns or gave up the electric refrigeration line entirely, Mr. Uhalt reports, calling this "a record for minimum dealer 'turnover.'"

He attributes the favorable business reports for 1931 partially to the survey plan by which dealers called on prospects in their homes and to schools for training salesmen.

COOPERATIVE CAMPAIGN ON GAS REFRIGERATORS OPENS

LOS ANGELES—Announcement was made by Arthur E. Spring, president of California Electrolux Co., and Clyde Potter of Southern Counties Gas Co. at a recent meeting of the Southern California Federation of Merchant Plumbers, that the L. A. Gas and Electric Co. and Southern Counties have joined the Southern California Gas Co. in the cooperative dealer-utility sales campaign now being carried on for Electrolux refrigerators.

The Southern California Gas Co. launched its cooperative sales program with merchant plumbers last June. All newspaper and billboard advertising carries the line "consult your nearest plumber or the Gas Co."

These three companies, it is understood, will spend $120,000 this year on cooperative advertising.

FEBRUARY MAGAZINES OPEN BUREAU DRIVE

NEW YORK CITY—The opening gun of the Electric Refrigeration Bureau's 1932 campaign of national advertising will be fired Feb. 10 when the March issue of *McCall's Magazine* makes its appearance on the news stands, carrying a full-page advertisement in four colors.

The March issue of *Good Housekeeping*, out Feb. 25, and the March 5 issue of *Saturday Evening Post* will carry the same ad, while the same copy and art, only in black and white, will appear in the March 7 issue of *Time*.

This advertisement, which the bureau estimates will be seen and read by at least ten million potential purchasers of electric refrigerators, will herald "Ten Million Call Month," the first country-wide activity of the Electric Refrigeration Bureau in the interest of "Another Million in 1932."

The entire month of March has been set aside for this campaign in which every distributor, dealer and salesman in the country is asked to participate.

The keynote of this opening advertisment is thrift, and the concluding slogan is "You Can Buy an Electric Refrigerator on the Easiest Terms."

Both art and reading matter stress the thrift angle in its daily appeal to the economically-minded housewife, while the final paragraph of the text opens the door to the salesman as follows: "The very day you pay your few dollars down you begin to enjoy the benefits of your electric refrigerator. Isn't THAT thrift?"

Allison Speaks

MADISON, Wis., Feb. 1.—Dr. G. W. Allison, field manager of the Electric Refrigeration Bureau, talked before representatives of various refrigerator dealers here today. He goes to Milwaukee to talk before a similar meeting tomorrow.

Dr. Allison left the New York office of the bureau Jan. 12 for Altoona, Pa., where 33 persons, representing eight makes of refrigerator, heard him speak.

Cooperative organization among refrigeration dealers there will take place soon.

Jan. 13 Dr. Allison had lunch with the refrigeration committee of the Electrical Association of Philadelphia. The following day he spoke at Reading, where a local bureau was organized with 49 members. F. L. Lederach, secretary-manager of the Electric League, is chairman.

Jan. 25, Dr. Allison spoke at Allentown, Pa., going from there, Jan. 27, to speak at the mid-winter conference of Electric Leagues in Philadelphia. The following day he spoke in Johnstown, Pa., and on Jan. 30, in Minneapolis.

His future itinerary is as follows: Feb. 4, Cedar Rapids, Iowa; Feb. 5, Des Moines, Iowa (tentative); Feb. 8, Kansas City; Feb. 9, St. Louis; Feb. 11, Pittsburgh.

HARRISON ELECTED LEAGUE VICE PRESIDENT

NEWARK, N. J.—Philip H. Harrison, distributor of General Electric refrigerators in the northern New Jersey area, was elected vice president of the Essex Electrical League, at their seventh annual election meeting held Jan. 14.

During 1931 Harrison was treasurer.

You can make STEADY PROFITS *with* FRIGIDAIRE

THAT'S WHY IT WILL PAY YOU TO LEARN THE DETAILS OF THE FRIGIDAIRE FRANCHISE

Steady sales mean steady profits. And that's the net of the Frigidaire franchise . . . it enables you to make consistent sales every month of the year. That's why Frigidaire dealers make *more money* over a longer period.

Frigidaire's policy toward its dealer organization is one of constant cooperation in advertising and sales. Seasonal merchandising plans that bring results . . . compelling direct mail advertising that's easy to use . . . radio advertising that sends prospects direct to showrooms . . . sales helps that uncover good prospects . . . window trims and displays that bring in the passers-by . . . these are just a few of the many things you can count on in the way of factory assistance from Frigidaire.

And never lose sight of this fact. Frigidaire's dependability and value are *proved* by more than two million satisfied users. These users are telling their friends. This makes Frigidaire easy to sell. And General Motors backing makes Frigidaire still easier to sell. It gives you added prestige and good will.

CROWDING THE SHOWROOMS! During three weeks in December, more than 200,000 people visited dealers' showrooms in response to the Frigidaire program. Starting in February, the Frigidairians will be on the air again three evenings a week over sixty stations. Frigidaire programs are specifically designed to bring people into showrooms for demonstrations. Thousands of new prospects will be developed.

Consider these facts . . . weigh them in your own mind. You are in business to make money. Greater net profit is the one thing that interests you most. You want the franchise that will continue to bring you more profits for years to come. Find out what Frigidaire has to offer. Mail the coupon today.

FRIGIDAIRE

A GENERAL MOTORS VALUE

MAIL • THIS • COUPON • FOR • FRANCHISE • FACTS

FRIGIDAIRE CORPORATION, Franchise Division, Dayton, Ohio.
Dept. M-26.

Gentlemen: Please send me the facts about the Frigidaire Franchise.

Name .....

Business ..... *Address* .....

City ..... *State* .....

AIR CONDITIONING IS ASRE SHOW FEATURE

(*Concluded from Page 2, Column 5*)

early issue of the *Engineering Section* of the NEWS.

B. F. Sturtevant Co.'s new rotary compressor for refrigeration use was shown in the booth of the Cooling and Air Conditioning Corp., New York City.

Cooling coils were exhibited by Fedders Mfg. Co., Buffalo, while coils and unit heaters were shown by McCord Radiator & Mfg. Co., Detroit.

Brass fittings were displayed by the Mueller Brass Co. of Port Huron, Mich.

Controls appeared in booths of Minneapolis-Honeywell Regulator Co., Minneapolis; Penn Electric Switch Co., Des Moines, Iowa; Mercoid Corp., Chicago; and Bishop & Babcock Sales Co., Cleveland.

Electric motors were shown by the Wagner Electric Co., St. Louis; and the Century Electric Co., St. Louis.

The American Radiator Co. showed its new "Ideal Cascade" humidifier, a cabinet type aluminum unit with automatic action for either steam or hot water heating systems.

Parks-Cramer Co. of Fitchburg, Mass., exhibited its room humidifier, small enough to be placed on a desk or small table.

C. A. Dunham Co. of Chicago featured a new type of concealed radiator from which the heating unit may be removed.

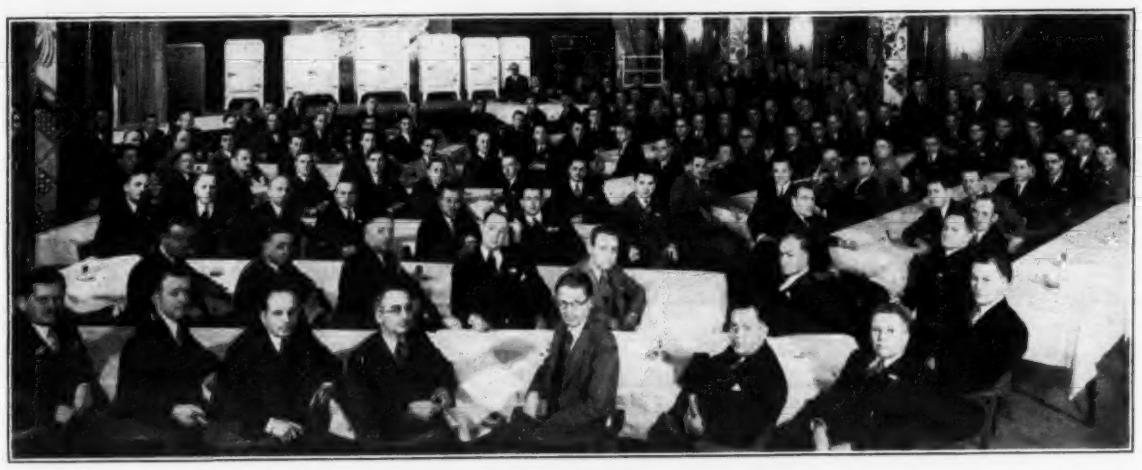
The Aerofin Corp. of Newark displayed a new "flexitube" coil with the tubes offset to afford flexibility under contraction and expansion.

Grinnell Co., Providence, R. I., exhibited its unit heaters and coolers.

Powers Regulator Co., Chicago, displayed new air conditioning duct thermostatic devices.

Niagara Blower Co. of Buffalo featured an aluminum model of its unit cooler in actual operation for cooling air.

Majestic Distributors Confer



Distributors of Majestic electric refrigerators and radios met in Chicago last week to plan 1932 sales in which refrigeration will be featured.

SMITH SUCCEEDS SLOAN AS N. Y. EDISON PRESIDENT

NEW YORK CITY—Frank W. Smith has been elected president of the New York Edison Co. to succeed Matthew S. Sloan, it was announced following a meeting of the board of directors late last week.

Mr. Sloan resigned as president of the New York Edison Co. and its affiliated electric companies and as trustee of the Consolidated Gas group at a meeting of the board of trustees of the Consolidated Gas Co., Jan. 28.

"I have business plans for the future which I am not at liberty to discuss now," Mr. Sloan said in announcing his resignation.

Laidley Co. Appointed Range Outlet

PORTLAND, Ore.—The Laidley Co., General Electric refrigerator distributor in this territory, was appointed Hotpoint range distributor effective the first of January in Oregon, eastern Washington, northern California and northern Idaho.

Additions to the staff of the distributing organization have been made from the old Hotpoint organization, according to L. A. Isermann of the firm. Plans for merchandising the new line will be carried out through utility and retail dealers now handling refrigerators, and possibly through the Laidley Co. retail store here.

ARMCO VICE PRESIDENT SPEAKS ON 'ICE BY WIRE'

CINCINNATI, Feb. 1.—"Ice by Wire" was the subject of a speech delivered by W. W. Sebald, vice president of the American Rolling Mill Co. on the regular weekly Armco Iron Master program from W8XAL (short wave) and WLW, local stations, tonight.

"Those of us who have mechanical refrigeration plug a cord into an electric light socket—and presto!—we get our ice by wire—perpetually—all wrapped up in a nice porcelain enameled cabinet!"

Mr. Sebald then explained in nontechnical terms how mechanical refrigerators work under the absorption method. He concluded by saying:

"The mechanical refrigeration industry has shown tremendous growth with the last few years. The slogan of the industry is: 'An electric refrigerator pays for itself!' The present price of mechanical refrigeration is within the reach of all.

"Today there are millions of units in successful operation, and in 1932 at least one million additional homes will be equipped with these new marvels of modern refrigeration."

STRACHAN NAMED DISTRICT MANAGER FOR KEROTEST

PITTSBURGH—James A. Strachan, formerly assistant sales manager of the brass valve division of the Kerotest Mfg. Co. has been appointed district manager of a territory comprising New York, New Jersey, and the New England states. Headquarters will shortly be established in New York City.

Mr. Strachan, as factory representative, will cooperate with present Kerotest distributors in these states: A. E. Borden Co., 110 High St., Boston, Mass.; Paramount Electrical Supply Co., 58 Warren St., New York City; McIntire Connector Co., Jefferson and Chestnut Sts., Newark, N. J.; and W. H. Schrank, 246 Fifth Ave., New York.

SPRINGFIELD, MASS., CO. MADE COPELAND OUTLET

SPRINGFIELD, Mass. — Petroleum Engineering Corp. has been appointed Copeland distributor for Hampden, Hampshire, Franklin and Berkshire counties, with headquarters at 366 Worthington St. This firm, which became Copeland dealer here last year, is headed by George F. Williams.

Henry Batchley, formerly with the New Haven Electric Co. as sales promotion manager and having 10 years' experience in refrigeration selling and merchandising, has been put in charge of the local company's refrigeration division.

NORGE DEALERS TO MEET IN SPRINGFIELD, MASS.

SPRINGFIELD, Mass.—Meetings for Norge dealers will be held at Hotel Kimball in this city, Feb. 4, and at Hotel Ten Eyck, Albany, Feb. 5. These will be under the auspices of the B. H. Spinney Co., distributor, and B. H. Spinney will preside.

Addresses will be made by John H. Knapp, vice president; Ralph Caldwell, merchandising counsel, Detroit; and Glenn O'Hara, eastern sales manager, New York, representing the Norge Co.

KRICH, GIBSON DISTRIBUTOR, VISITS GIBSON FACTORY

GREENVILLE, Mich.—Paul R. Krich, sales manager of the Krich Distributing Co., newly appointed Gibson electric refrigerator distributor in the Newark territory, visited the Gibson factories here Thursday, leaving for the east via airplane from the Grand Rapids Airport.

STARR CO. REPORTS 440% SALES INCREASE

RICHMOND, Ind.—An increase in refrigeration sales by the Starr Piano Co. of 440 per cent as compared with the same period in 1930 is reported by T. E. Flack, director of retail sales and manager of the Starr Piano Co. Sales Corp. stores. He reports an increase in all sales of about 19.7 per cent.

Mr. Flack states that Starr-Freeze salesmen sell wholly on the investment value of electric refrigeration. "The public is afraid of every investment which does not appear tangible. We can show and prove the investment value of electric refrigeration so clearly that it is comparatively easy to induce the public to spend its hoarded money."

Mr. Flack's statements are borne out by the following figures. In the Richmond, Ind., Starr Piano Store, which is the retail organization headquarters and the home of the Starr Piano Co., the retail employes were able to sell 104 refrigerators in 100 days. Richmond has only 33,000 inhabitants.

During this year to date, the Starr organization has sold more than 50 per cent of the electric refrigerators placed on the Municipal Light Plant's lines. This was accomplished with no increases in personnel over 1931, and no additional advertising, but a consistent program.

"First of all," he continued, "everyone of our employes must study and learn the fundamentals of electric refrigeration, the construction of the Starr Freeze unit and compressor. Next, no employe is permitted to 'knock' a competitive make of electric refrigerator. We believe that sort of thing is a reflection upon electric refrigeration as a whole.

"Our plan of selling is based upon the educational program of the National Electric Light Association with certain points added to fit our own particular situation."

MAJESTIC NAMES GAINES AS NEW SERVICE MANAGER

CHICAGO—A. DeB. Gaines has been appointed general service manager of the Majestic organization, to fill the position left vacant by the resignation of H. M. Pauley.

Mr. Gaines' appointment is one of four additions to the Grigsby-Grunow staff just announced. Larry E. Coen, formerly connected with various utility organizations, has become director of public utility relations. G. P. Lonergan will supervise the Detroit and Cleveland territory as refrigeration field representative. Paul C. Richardson becomes a district manager.

Mr. Gaines has served as general sales manager of Absopure; sales manager of the Universal Cooler Corp.; Chicago distributor for Holmes; and district sales manager of Servel, Inc. Mr. Pauley, whom he succeeds, resigned to become distributor contact representative of Gibson Electric Refrigerator Corp.

Mr. Coen has been with the Cincinnati Electric Club, the Union Gas & Electric Co., and the Union Light, Heat and Power Co. He has been a member of the League Council and the Society for Electrical Development.

Mr. Lonergan comes to Majestic from R. Cooper, Jr., Inc., Chicago distributor for General Electric refrigerators. He was in the main office sales department, specializing in apartment house sales. He is a former newspaper man, and has also been with Frigidaire Corp. for two and a half years; the Coldak Corp., and the Excelsior Motor Mfg. & Supply Co. of Chicago.

Mr. Richardson comes to the company from the Peirce-Phelps Co., Majestic distributor in Philadelphia, where he has served as sales manager in charge of radio, and as advertising and sales promotion manager. He was formerly contact man for the Western Newspaper Union and the Linograph Co., and spent four years as sales promotion and advertising manager of the Eternit Co.

GALT HANDLES MAJESTIC RADIO SALES PROMOTION

CHICAGO—W. L. Galt, who has been New England district manager for Grigsby-Grunow Co. for the past several months, has been appointed radio sales promotion manager for the entire company.

For four years, Mr. Galt covered the New England territory for the Atwater-Kent Co. and during the next year, he was sales promotion manager for Philco with D. W. May Co., Boston, Newark, and New York City.

He was sales promotion manager for Majestic Distributors, Inc., Boston.

WESTERN WASHINGTON OUTLET FOR LEONARD APPOINTED

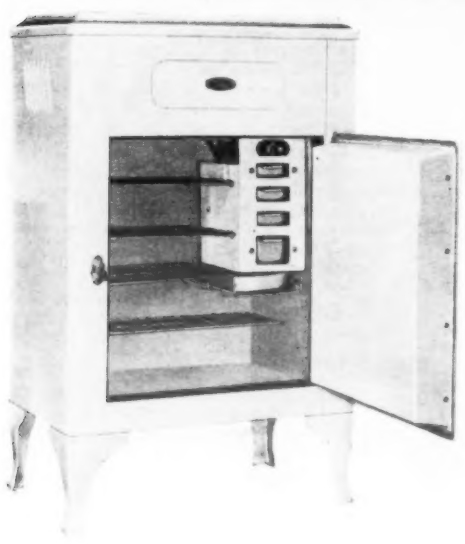
SEATTLE—The North Coast Electric Co. has been named western Washington distributor for the Leonard electric refrigerators, according to recent announcement of J. B. Nicholson, Pacific Coast manager of the manufacturing organization.

The World's Most Sensational Electric Refrigerator Value

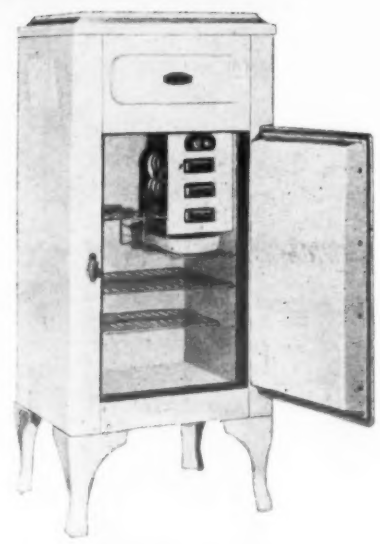
Buckeye

Here is size . . . eye appeal . . . quality merchandise . . . mechanical perfection . . . everything you want in electric refrigerators, at a price never before equalled. The first full sized, 5½ cubic foot refrigerator of standdard make and fully guaranteed to retail at $99.50 . . . and there's a *generous profit for the dealer.*

In production . . . shipments going out every day . . . and there's still some territories open for real merchandisers who realize the immense possibilities . . . the vast consumer demand . . . for a quality refrigerator at a popular price.



No. 71 Here's a lot of refrigerator for a little money. 7.18 cubic feet with 11 square feet of shelf area. Three trays and a deep pudding pan make 105 ice cubes. Four inches of Kapok insulation around a one-piece vitreous porcelain food compartment. It will give years of trouble-free service—and sell like hot cakes.. **$159.50**



No. 53 The world's sensation in electric refrigerators. Not just an apartment size, but a big 5.5-cubic foot size with 8.5 square feet of shelf area. Three trays make 63 cubes. Years of experiment and actual use in the field prove the high quality and efficiency of this unit. Your customers will prove its saleability when they take them off your floor for **$99.50**

DOMESTIC INDUSTRIES, INC.

MANSFIELD, OHIO

WHITE MOUNTAIN CO. PLANS '32 EXPANSION

NASHUA, N. H.—Plans for expansion in the electric refrigeration field by the Maine Mfg. Co. were announced at a convention of district sales managers held here Jan. 14, 15, and 16.

The company, which has produced ice refrigerators for 57 years, displayed its new 1932 line of White Mountain electric refrigerators for the first time at this convention.

Last year under depression conditions the company increased its ice refrigerator volume and closed its fiscal year with a profit. At the same time it completed the experimental introduction on a moderate scale of its proposed new line of refrigerators.

At the convention, Philip Ellis Stevens, president of the company and son of its founder, the late I. Frank Stevens, gave the address of welcome. His brother, Isaac Blaine Stevens, vice president, outlined the history of the company. T. L. Reynolds, sales manager of the electrical division, summed up the market for electric refrigeration in 1932.

Advertising and publicity programs were outlined to the sales managers, as were service plans. Dickie-Raymond, Boston direct mail organization, and its associated advertising agency, Porter Corp., discussed the advertising plans.

DR. ALLISON ADDRESSES N. Y. ADVERTISING CLUB

NEW YORK CITY—Electric refrigeration has had the most rapid public acceptance of any appliance produced by the electrical industry, Dr. G. W. Allison, field manager of the Electric Refrigeration Bureau, told the electrical group of the New York Advertising Club at a luncheon Jan. 22.

How To Prevent Forgeries

As Devised By D. F. Secord, Treasurer, Rex Cole, Inc.

NEW YORK CITY—A simple and absolutely foolproof method of preventing forgery of payroll checks and "padding" of payrolls has been invented by Daniel Secord, treasurer of Rex Cole, Inc., distributor for General Electric refrigerators.

The unique feature of this new invention is that the name of the payee appears as a facsimile of his signature and is not typewritten or hand written. It establishes beyond any question the identity of the payee and enables him to cash the check in any bank by the simple comparison of the facsimile on the face of the check and the endorsement on the back.

According to Mr. Secord's plan, the signature of an amploye is obtained on a stencil when he is hired. When the employe is paid the stencil is used in placing his signature upon a blank space in the center on the face of the regular payroll check. Before this check can be cashed it must be endorsed, naturally, and the endorsement must coincide with the facsimile signature on the other side of the check.

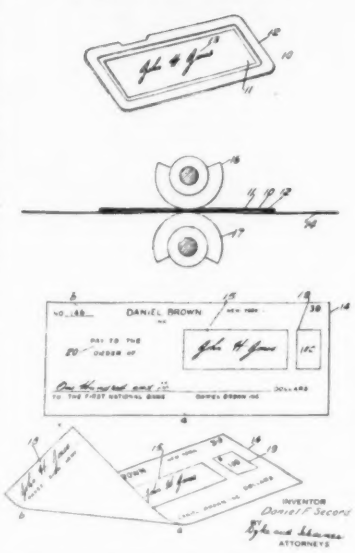
This invention, according to Mr. Secord, enables the preparation of a payroll quickly and easily and prevents effectively such frauds as "padding"—that is the placing of names of individuals upon the payroll when no such individuals are employed nor entitled to receive payments. In the ordinary method of making up payrolls, such "padding" has been done in thousands of instances through which an agent of the actual employer has benefitted.

In the event a payroll in which checks of this nature are used is "padded," the fraud is discovered immediately upon the return of the cancelled checks. Furthermore, the knowledge of anyone intending such fraud that written record of "padding" would assist in the form of fraudulent stencils would act as a strong deterrant against a commission of such a crime.

The conviction of a number of New York bankers and leaders in industries and commerce is that before long Mr. Secord's invention will be adopted by hundreds of large business houses in New York City and in other sections of the country. One attorney ventured to say that within a few years such a system of protecting employers against losses to payroll "padding" will be universally adopted by firms employing hundreds of people.

H. P. Smith, auditor of the General Electric refrigeration department, has suggested to officials of the General Electric Co. in Schenectady that the use of the Secord system would be very advantageous to the refrigeration department and would be less expensive and it would not be surprising if the General Electric Co. took the lead among the larger industrial firms in the country in adopting the Secord system.

Payroll Writer



Patent application for device to stop forgeries and payroll paddings.

MAJESTIC DEALERS ATTEND CONVENTION

CHARLOTTE, N. C.—Three hundred Majestic radio and refrigerator dealers of North and South Carolina were present at a convention Jan. 13 in the Hotel Charlotte.

Harry P. Shaw, Sr., president of Shaw's, Inc., Majestic distributor for this territory, presided at the business sessions of the all-day meeting. Ray Erlandson, assistant sales manager of the Grigsby-Grunow Co., talked on the proposed activities of the refrigerator, radio and tube divisions of the company.

New Radios on Exhibition

New models of Majestic radios were on view, and were introduced by Furman Ferguson, sales promotion manager of Shaw's, Inc. A banquet and revue provided the entertainment for the evening.

Frank S. McGaughey, president of the Capital Electric Co., Majestic distributor for Georgia, Tennessee, and Alabama, Harry Lever, sales manager, and J. C. Montgomery, sales promotion manager of the same concern, were present at the convention.

E. L. Hollingsworth, southern divisional manager of the Grigsby-Grunow Co., made a short talk on Majestic activities in the south for the coming year.

SERVEL DISTRIBUTOR IN DENVER HAS DISPLAY CAR

DENVER—Housewives in Denver and vicinity may now inspect any model of the Servel electric refrigerator without going downtown, for a miniature showroom mounted on a trailer is a part of the equipment used by Winter-Weiss Co., Servel distributor in this territory.

"Salesmen find that many prospects who might otherwise hesitate to go downtown to our retail store, or wait for a refrigerator to be delivered for demonstration, will rarely object to the suggestion that they inspect the Servel models carried in the miniature showroom," says H. A. Winter, president and treasurer of the firm.

The trailer is so designed as to make possible changed dimensions for either city or territorial purposes. A few months ago, it was used in a campaign to obtain new dealers in the territory. By carrying two or more models on a several weeks' trip, the selling of the Servel line to new dealer prospects was made easier, Mr. Winter reported.

JORDAN IS APPOINTED TO LEONARD PROMOTION STAFF

DETROIT—Arthur C. Jordan has been appointed a member of the Leonard Refrigerator Co. sales promotion staff at Detroit headquarters, according to announcement by A. M. Taylor, director of advertising and sales promotion, last week.

Mr. Jordan is a New Englander, a native of Cambridge, Mass. He left Boston College before graduation to go into the World War.

Previous to joining Leonard, Mr. Jordan was cooperative resale manager of the Atwater Kent Radio Co. in Philadelphia; district sales manager of the P. A. Geir Co., of Cleveland, vacuum cleaner manufacturer; and district sales manager of Landers, Frary & Clark, New Britain, Conn., manufacturer of electrical appliances.

GRAY APPOINTED DISTRICT HEAD FOR LEONARD

DETROIT—George B. Gray has been appointed Leonard Refrigerator Co. district manager for the southwestern territory with headquarters at Dallas, Tex., according to R. I. Petrie, sales manager of the Leonard company.

Mr. Gray was manager of the refrigeration department, Claude P. Street Piano Co., Nashville, Tenn., before his recent appointment. He had previously been associated with a firm handling electric refrigeration at Little Rock, Ark.

UNIVERSAL RADIO CORP. BECOMES LEONARD OUTLET

PHILADELPHIA — The Universal Radio Corp., 1321 Arch St., 69th and Market Sts., and 1940 Market St., has been signed as a dealer organization for the Leonard electric refrigerator.

Besides the three stores now being operated by the firm, another is in the process of being built and will be completed in March. A radio advertising campaign will be carried on over WCAU during the month of February to advertise the Leonard electric line.

Another dealer, N. M. Terwilliger of New Brunswick, N. J., has recently been appointed by the same Leonard distributor which furnishes the Universal Radio Corp., namely the Klein Stove Co. of Philadelphia.

GENERAL ELECTRIC CO. ORDERS DECLINE

SCHENECTADY, N. Y.—Orders received by the General Electric Co. during the year 1931 amounted to $252,021,496, compared with $341,820,312 for 1930, a decrease of 26 per cent, President Gerard Swope has announced.

Orders for the quarter ending Dec. 31 amounted to $49,321,480, compared with $74,168,480 for the last quarter of 1930, a decrease of 34 per cent.

Sales billed and earnings for the year 1931 are not yet available, but the complete annual report will be forthcoming in March.

How To Sell Refrigerators

As Told By Ray Whyte, Frigidaire Store Manager

By Phil B. Redeker

DETROIT—At a recent meeting of Detroit dealers in General Motors radios Ray Whyte, manager of Brooks Bros. store on Grand River Ave. near Joy road which sells Frigidaire refrigerators as well as radios, was objecting vociferously to some of what he called "the cut-and-dried policies" which were being expounded by the "old and settled" dealers.

Finally, one of the "veterans" rose to his feet and voiced an opinion about the "young upstart from upstate" (the store location being on Detroit's far north side) which was widely acclaimed by the other die-hards. Young Mr. Whyte only smiled—his time was coming.

Outvotes All Others

When the time came to vote on certain dealer policies, it was announced that the votes would be apportioned in accordance with the number of sets sold by each dealer, one vote for each set sold. And when the votes were tallied up Whyte was found to have *116 more votes* than the rest of the dealers combined!

The story is characteristic of the dynamic nature of the operations carried on in this Frigidaire-General Motors Radio dealership. Starting from scratch less than a year ago, Whyte has built up an organization that has done a greater volume of business than any other Frigidaire *dealer* in the Detroit area. He is at present planning to increase the number of his salesmen to 24 and is considering the possibilities of opening up two more showrooms.

Although he has the appearance and mien of a 20-year-old collegian, Whyte has been in some sort of a sales capacity with various divisions of the General Motors Co. since 1919.

He has incorporated some of the ideas into his selling organization which he gained when he was an executive with the old Chevrolet sales organization.

System of Bonuses

He would figure out how much business one of his salesmen should get for a year, and make that the salesman's quota. If the salesman made that quota of, let us say, $40,000, he got a bonus of 1 per cent. If he made 125 per cent of quota or $50,000 worth of business, he got 1½ per cent bonus.

By *knowing* his men and setting these quotas at a high yet attainable figure, he gained the respect and loyalty of salesmen working under him, many of whom were 20 years his senior.

He has given this plan effect in his Frigidaire sales activities by building monthly quotas for his salesmen, and giving bonus awards when they were made.

In addition to his bonus plan, he has held a number of contests in which he has presented merchandise prizes in the way of clothing, and household articles. This type of award is effective in a small organization where the sales manager knows the tastes of all his men, Whyte believes.

Salesmen in Whyte's dealership are expected to do a lot of good, cold canvassing. Prospects which they pick up are carefully filed, and are called to the attention of the salesmen for follow-ups at the proper time.

The importance of getting the prospect to the showroom for a demonstration is emphasized by Whyte, and inducing such action is one of the salesmen's first steps when he obtains an interview.

Daily Sales Meetings

His salesmen almost invariably get to work by 8:30 a. m. or before. There is a reason. Whyte has a lottery-drawing for the commission which he gets on every sale he personally makes, the winner getting the commission. These prize drawings are held at 8:30 a. m., and the salesman who isn't there when his name is drawn is just plain out of luck, for another drawing is held immediately to give the prize to the man present.

Whyte is a great believer in salesman training, and in addition to the regular schools held by the Detroit branch, he carries on morning sales sessions for his own men at opportune times.

He holds out *no closed territories* for his salesmen, as he believes that such a plan is a greater hindrance than a help to sales activities. Experience with such a system in the automobile sales operations taught him that it led salesmen to hoard up prospects, and to "underwork" a lucrative piece of territory.

Uses Direct Mail Extensively

Direct mail is used quite extensively, both in the handbills distributed from door to door, and in the follow-up literature which is sent to prospects. Getting the product *name* before the buying public is a powerful aid in selling, he points out.

One of the most effective bits of promotional literature which Mr. Whyte has uncovered is the Frigidaire sales organ, *Modern Era*, which he places in professional offices. A re-check on the use of these periodicals showed that they were well-thumbed, and that many had pages carefully torn out.

A type of prospect that is resulting in many sales in his territory, is the owner of duplex (two flat) apartment houses, Whyte states. This type of residence almost predominates in his district, he points out, and the idea of the necessity of electric refrigeration is brought to the attention of the tenants so much by the cold canvassing done by refrigerator salesmen from the various companies that they virtually demand new machines of their landlords.

Two-Oven Electrochef Model Introduced

DETROIT—A two-oven Electrochef, model BM-24, has been announced by Electromaster, Inc., to suit the family whose cooking requirements exceed the capacity of one oven.

There are four surface cooking elements in the model. Both ovens are automatic, and three-way receptacles are provided so that either hand-wound or synchronous electric clocks can be plugged in without additional equipment. The equipment is in green or white porcelain enamel.

The model BM-24 is 45½ in. high, 58½ in. wide, 25½ in. deep. The cooking table measures 22 in. by 22 in. and is 33 in. from the floor. The two ovens, each lined with chromeplate, are 16 in. by 14 in. by 19 in. each.

Standard equipment includes a backplate shelf; four condiment jars, two Electrochef smokeless broilers, two receptacles for timer clocks, and two automatic oven control thermostats.

HARDING APPOINTED HEAD OF ELECTROCHEF DISTRICT

DETROIT—Bert Harding, for the last 10 years a range specialist and district manager for the Edison General Electric Appliance Co., has been made district manager of Electrochef sales in the southwest territory, according to A. H. Jaeger, general sales manager of Electromaster, Inc.

Mr. Harding covered the same territory under the Edison Co. that he has been assigned by Electromaster, Inc. His headquarters will be in Dallas, Tex.

FRIGIDAIRE DEALER MAKES 11 SALES IN 10 DAYS

LEMARS, Iowa—Eleven sales in 10 working days is the latest record of W. C. Huxtable, Frigidaire dealer here.

From midnight, Nov. 28, until noon, Dec. 10, he sold 10 household Frigidaires and one commercial installation.

40 KELVINATOR DEALERS ATTEND SALES MEETING

JACKSONVILLE, Fla.—Approximately 40 Kelvinator dealers in Florida and south Georgia gathered at the Hotel Carling Jan. 22 for a one-day meeting, the high point of which was the introduction and showing for the first time the entire line of 1932 Kelvinators.

The meeting was sponsored by Kelvinator-Kimmel, Inc., distributor for this territory, and was attended by J. S. Sayre, general sales manager; S. D. Camper, regional sales manager; Charles Meredith, district manager, and J. M. May, field service representative.

The morning session was opened by an address by Mayor Alsop, of Jacksonville, and was followed by a movietone presentation, showing the making of boxes and the various units at the Detroit factory. The complete line then was introduced by Mr. Sayre.

Following luncheon, the advertising and sales promotion campaign for the coming year was outlined by different speakers.

NEW YORK STARR OUTLET OPENS NEW SHOWROOM

NEW YORK CITY—The Royal Refrigeration Co., distributor of Starr-Freeze electric refrigerators, has opened a new showroom in a corner of the New York Furniture Exchange building at Lexington Ave. and 32nd St.

The distributing organization, of which Phil Lindenbaum is president, has placed orders at the Starr Co. factory for 40 cars of Starr-Freeze domestic and commercial equipment, with shipping dates already set.

TWO CONNECTICUT SALESMEN WIN G. E. TRIP

SOUTH NORWALK, Conn. — John Sterling and Albert Perrot, salesmen for James Donnelly, 16 S. Main St., General Electric refrigerator dealer, have been awarded a week's vacation for their sales record.

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Week by

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Editorial Aims of the News

To encourage the development of the art.

To promote ethical practices in the business.

To foster friendly relations throughout the industry.

To provide a clearing house for new methods and ideas.

To broadcast the technical, commercial and personal news of the field.

Honest Specifications

FROM many quarters come reports that dealers and salesmen—and even some manufacturers—are representing the capacity of the refrigerators they are selling in *gross* cubic feet, rather than in the standard *net* cubic feet rating.

Thus these salesmen are presenting what are really four-cubic foot boxes as five-cubic foot models; and hence are able to offer what appear to be highly attractive prices when compared superficially by the uninitiated with refrigerators sold according to the standard rating in net cubic feet.

It is the concensus of opinion among members of the Refrigeration Division of the National Electrical Manufacturers Association that all capacity ratings upon which electric refrigerators are sold should be in terms of *net* cubic feet, according to the adopted formula.

These members have also agreed that no designations based on other ratings should be used in sales presentations, even though the maker's specifications clearly indicate net "cubage" somewhere on the tag.

Urges Use of Net Figure

According to Louis Ruthenberg, chairman of the NEMA refrigeration division, all 11 members of the division will adhere to this policy of quoting ratings in net cubic feet, and will exert every effort to see that their dealers and salesmen follow the policy rigidly.

Ratings in terms of net cubic feet have so long been accepted as standard in the industry that the quotation of gross cubic feet ratings in competition with net ratings must be considered as possibly belonging to the category of dishonest practices.

Distinctions between net and gross cubic feet ratings are likely to seem vague and confusing to the housewife, and it is entirely possible that warnings on the matter directed to her may not be particularly effective.

General Acceptance

Inasmuch as the generally accepted capacity rating for electric refrigerators has always been that of net cubic feet content, and since the great bulk of electric refrigerators are advertised and sold only under those terms, it would seem that the only square and honest way of representing electric refrigerator capacity should be in those terms.

Above all else refrigeration men do not want this business to become a "racket." And the practice of quoting specifications which are of a dishonest nature is a tendency in that direction.

Those who want to preserve the dignity and integrity of the electric refrigeration industry will likely exert all the influence they can muster to see that any and all who are retailing refrigerators follow standard ratings in representing the refrigerators they have to sell.

At the Show

THE many air conditioning devices displayed at the Second International Heating and Ventilating Exposition last week in Cleveland dramatized the intense interest which domestic air conditioning holds for the manufacturers of allied lines, and the dissimilarity of designs indicated a wide variety of opinion among engineers as to what conditions a system should produce for human comfort.

Industrial air conditioning equipment also appeared among the exhibits, some demonstrated in actual operation, and all attended by engineers to explain the operation. Although by no means a closed book, the problems of industrial air conditioning are simplified by the measurability of conditions which produce most satisfactory industrial processes.

For comfort producing equipment, widely differing degrees of temperature reduction, humidification, dehumidification, cleaning, and heating were effected in the apparatus shown.

Expressions of opinion about the optimum amount of air treatment desirable on the above points probably were governed largely by the accomplishments and limitations of the equipment with which a speaker was identified.

Emphasis was accorded dehumidification by the attendants in the booth where a Silica Gel unit operated.

Dehumidification, Cooling

Systems employing refrigeration with the compression cycle stressed the importance of temperature reduction and dehumidification.

Central systems for the home, which cool the air partially by city tap water, clean it by water spray or filters, and circulate it throughout the house, were displayed by exhibitors who declare that good circulation and cleanliness are prime requisites of human comfort and health.

The need for winter air humidification was postulated as a health measure by makers of devices which impart moisture to the air.

One school of thought holds that air conditioning a whole house at one time requires a refrigerating machine that is too large from the original cost and operation standpoints, and that the solution lies in the operation of unit air conditioners placed in the various rooms with controls for using one or two at a time according to the changing occupation of the rooms.

Central Systems Proposed

Another school argues that the incorporation into cabinets throughout the house of all the devices needed to produce the several operations of complete air conditioning is not economic, and that a better method is to give complete air treatment in a central plant, then circulate it to all the rooms.

Most of the exhibitors inclined to the view that to gain public acceptance, a system should control air conditions over a major portion of the year.

Lack of agreement on methods to accomplish the end is a healthy condition which promises to leave no ideas untried. It has already produced equipment which last week compelled the chief interest of visitors to the exhibits.

GLEANINGS
FROM RECENT PERIODICALS

SIR HENRY THORNTON,
President, Canadian National Railway, says:

I HOPE that in the passenger car of the future there will be no longer that unfulfilled life's ambition to be able to open a window. If dreams work out, there will be no need for it; the air will be cleaned and fresh, the car will be properly warm in winter without being stuffy, and cool in summer, with roadbed dirt and engine dust eliminated.

Beyond this, may I state confidentially that the present-day Pullman berth is not really a diabolical joke on the public? It has been the best we could do; the man who invents the perfect sleeping car will need a police guard to hold off the railroad presidents desirous of weeping for joy on his shoulder.

The chamberette, or private sleeping room, is a long step forward. But there must and will be further improvements. Overnight service will not be complete until every passenger possesses, at a reasonable cost, the privacy and comfort of some type of compartment.—*The Saturday Evening Post.*

An Editor on Wheels
Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

Cleveland, Ohio

It has been remarked facetiously that one could be born, live one's life, and die without leaving a certain building (or connected group of buildings) in New York City.

This statement might be equally true of Cleveland's Terminal Tower structure, which consists of a highly impressive railroad station, an office building, a sizeable hotel, a department store, and a complete assortment of shops and professional services. Everything under one roof.

One can get off a train there, transact business for several days, have all one's wants attended, and never set foot on the street outside.

Cleveland's business district is not extensive. In fact, it occupies fewer blocks and acres than similar business sections in cities considerably smaller.

There is no mistaking the fact, however, that it is a metropolitan business district. Buildings are huge, massive, impressive, packed together.

Only New York City and Chicago present compact areas of steel and stone and mortar to match this collection of architectural giants.

In addition to the usual assortment of office buildings, department stores, and smaller mercantile establishments, the squat, heavy, compact Cleveland business district contains quite a number of banks, as well as public buildings.

Recognized as the fourth financial center of the United States, Cleveland's banking institutions give visual evidence of their importance.

The Union Trust building is the second largest banking building in America, and houses the largest single room devoted to banking in the world (according to an attendant). The Federal Reserve Bank of the Fourth District is located not far away.

Among the public buildings in this compressed area are the Federal building, public auditorium (can mother 14 different events simultaneously; contains second largest pipe organ in the world), an "annex" exhibition hall, Cuyahoga county court house, public library, and the Italianesque board of education building.

All these buildings together form a "T" in the heart of the city, and are collectively known as the "mall."

This centralization idea has taken firm roots in Cleveland. Like things are attracted to like in this city.

Note, for instance, University Circle, Warrensville Farm, Cuyahoga Valley, and the well-zoned residential districts.

University Circle surrounds a natural ampitheatre, a lake, and associated gardens.

It is adjoined by the Cleveland Museum of Art, Western Reserve University, University Hospitals group, Case School of Applied Science, Cleveland Historical Society, Severance Hall (home of the Cleveland Symphony orchestra), Cleveland School of Architecture, Allen Memorial Library, School of Education, John Hay high school, three churches, and four high-toned apartment hotels.

Warrensville Farm, a city-owned 2,000-acre tract, has a tuberculosis sanitarium, a home for the aged and infirm (including cottages for old couples), and the municipal house of correction. This group is about eight miles out from the heart of town.

Cuyahoga Valley banks upon the Cuyahoga river (as you might guess), and furnishes land for manufacturing plants, docks, lumber, iron, and coal yards, and similar outcroppings of a great lake port.

Residential districts worth seeing include Shaker Heights, Cleveland Heights, Clifton Park, Fairmount-Coventry, Forest Hill, and Wade Park.

Best known of Cleveland's parks is a private one, Nela Park, where is located the National Lamp Works of the General Electric Co., its laboratories, and the Nela School of Lighting.

Some of the municipal parks, however, are not to be overlooked. Shakespeare Garden, for instance.

Planned like English gardens of the type in which Shakespeare once roamed, this park includes a sundial donated by Robert Mantell, a mulberry tree which got its start from a cutting of a tree planted by Shakespeare at his home, vines from the supposed tomb of Juliet, and a bust of Avon's Bard.

Also interesting is Liberty Row, a nine-mile avenue of red oaks dedicated to the memory of the 835 Clevelanders who died in the World War.

Other parks in the system, which engirdles the city—as a necklace primeval—include Wade Park, Fine Arts Garden, Metropolitan park, Brookside park, Edgewater park, Gordon park, the public square (Monumental park—almost five acres—downtown—with the inevitable Soldiers and Sailors monument), Rockefeller park (gift of John D., himself), and Woodland Hills park (boasts America's second largest swimming pool).

Another interesting group is a collection of three arcades, the "Colonial," "Euclid," and "Taylor," each chock-full of small shops. Nor can one overlook, when considering centralization, the $2,000,000 public market.

This arranging and grouping of kindred structures is, in a measure, typical of the Cleveland spirit and the Cleveland citizenry—well ordered, substantial, ambitious, dignified. Everything in its proper place.

Letters from Readers

Opposes Views on Utility Merchandising

I. B. Woundy Co., Inc.
Railroad Ave.
New Canaan, Conn.
Jan. 20, 1932.

Editor:

In the November, 1931, issue of an electrical trade magazine there appears an editorial in which the writer states something to the effect that in the states of Kansas and Oklahoma, since the restraining laws have been passed, there has been a loss of $4,000,000 of sales of electrical appliances in one year.

After reading this editorial carefully one cannot help but come to the conclusion that the writer's opinions are somewhat biased in favor of the utilities companies as against the interest of the legitimate dealer, using the words "legitimate dealers" as distinguishing between public utility dealers and other dealers.

For the reason that it is common knowledge that most utility companies for a long time have been doing an illegitimate merchandising business in the sense that they do a merchandising business at a loss and collect that loss from the proceeds of their protected monopoly charging this loss out as a legitimate expense in doing business which, of course, it is not.

The money they collect to cover this loss and change this loss to a profit should have been returned to the public by way of lowered lighting rates.

The writer's opinion seemed somewhat biased and naturally calls one's attention to the fact that he starts the article in large letters—LOST $4,000,000, and then in his article fails to take into consideration in any way the fact that during this same year, in which he claims the loss of $4,000,000 in sales, we went through the greatest business and financial depression most of us have ever seen.

It might be interesting and illuminating to compare the actual loss of sales in these two states, Kansas and Oklahoma, with the loss in sales of other states of about equal population, taking into consideration their percentage of rural population, where they were not hampered by the so-called restraining laws.

The failure to take into consideration the times of extreme business depression involved during this period of one year might lead one to believe that there might be other considerable discrepancies.

It might be expected that it would take considerable time for the legitimate dealers who have been practically carved out of part of the merchandising end of their business for years to adjust themselves to the new conditions and it would not be surprising that some of the loss of sales might be directly due to that cause.

It also would not be surprising that it might take two years or possibly more for dealers already in business and newly established businesses to become thoroughly organized and equipped to handle the business formerly done by the utilities companies.

On thinking the matter over carefully, one cannot believe that in the states of Oklahoma and Kansas there is little intelligence and sales ability outside of those employed by the utilities com-

(*Concluded on Page 18, Column 2*)

APPLIANCE METHODS OF UTILITIES STUDIED

GREENVILLE, S. C.—Recommendations "that the public utility companies be required to keep separate operating ledger accounts for appliance merchandising; that direct merchandising expenses be charged as incurred and that a proper proportion of indirect expenses be allocated thereto; and that the operating results (profit or loss) be separately stated in the general financial records," were included in the recent report to the South Carolina general assembly by the power rate investigating committee.

These recommendations particularly affect the Broad River Power Co., Carolina Power and Light Co., South Carolina Power Co. and Southern Public Utilities Co., distributing Kelvinator and other household electrical appliances.

Study Appliance Merchandising

A study of the appliance merchandising of these four large companies in South Carolina followed the complaints of various merchants' associations about the merchandising methods of the power companies.

As a part of the voluminous report, covering the various activities of the Duke Power Co. as well as the other four large companies, these recommendations were made "in order to relieve the consuming public of rates possibly affected by losses in the sale and servicing of appliances and in fairness to other dealers in the state handling competitive lines."

New Segregation of Accounts

Before making the recommendations, the report said in part:

"The committee finds that the Broad River Power Co., Carolina Power and Light Co., South Carolina Power Co., and Southern Public Utilities Co. either purchase for resale, or handle on consignment for resale, electric appliances and that operating expenses in connection therewith are absorbed by charges to their major electric operations, and to other services.

"It was further found that no uniform method of accounting was in use and that some of the companies had no segregation of accounts to reflect the result of such merchandising activities."

Tom B. Pearce, Columbia, was chairman of the investigating committee under whose direction the report was made. Other members of the committee were W. G. Jackson, Spartanburg; H Klugh Purdy, Ridgeland; and E. P Vandiver, Anderson.

FRIGIDAIRE SALES GAIN $32,000 IN PORTLAND, ME.

PORTLAND, Me.—Frigidaire sales in the Portland area in 1931 were $32,000 greater than sales the preceding year according to William B. Ward, manager of the Portland branch of the Frigidaire Sales Corp. of New England.

Among the installations made during the latter part of 1931 was a W-3 cabinet with direct expansion equipment using Frigidaire's new refrigerant, F-12, which was placed on the City of Portland, Portland's new fireboat. It is being used to preserve food used by members of the crew.

Important commercial installations were as follows: Paul Andrews, Biddeford, market and grocery, 8x7x7 walk-in cooler with 1854-F coil and FA-3100 compressor; State School for Boy, South Portland, one AH-5, four AH-6's and one Seeger 18-cu. ft. pantry box with 1220-F coil and A-233 compressor; Monticello Apartments, Portland, nine WM-4 cabinets and one W-6 cabinet with W-350 compressor; Carleton Apartments, Portland, 17 WM-4 cabinets and eight WM-3 cabinets with W-5100 and W-233 compressors; James Fusco, Portland, market, Whitman walk-in cooler, 7x7x8, with 1854 coil and W-350 compressor; Darling's Market, South Portland, Sherer-Gillette 10-ft. display case and 8x8x8 walk-in cooler with DX-4580 and DX-1866 coils and W-5100 condenser.

WESTINGHOUSE 1932 PLANS PRESENTED IN CALIFORNIA

SAN FRANCISCO—Vigorous sales efforts and plans for 1932 were discussed by Westinghouse refrigerator distributors and dealers who met at the William Taylor hotel, San Francisco, Jan. 13.

The meeting was sponsored by the two northern California distributors of Westinghouse refrigerators, Colvin-Templeton, Inc., and Westinghouse Electric Supply Co.

Among speakers were J. T. Templeton, D. M. Salsbury, R. L. Sanner, C. A. Meier, Ivan L. de Jongh, C. C. Eib and W. L. Powell. A. F. Hockenbeamer, president of Pacific Gas and Electric Co., also spoke.

ATWATER-KENT DISTRIBUTOR SELLS LEONARD LINE

BOSTON—How & Co., jobber of Atwater-Kent radio, has taken over distribution of the Leonard electric refrigerators in the Boston territory.

Kelvinator Appoints Commercial Specialists

Kelvinator Corp. has appointed a number of new men with the title of commercial field specialists who will assist outlets in improving their volume of commercial business. Front row, left to right, Edward Mueller, Larry Arbuckle, A. P. Smith, J. P. Scott, factory commercial specialist, R. I. Eshman and Carl Bissler. Back row, left to right, H. W. Wilkinson, Charles Long, William Blue, Tom Craig and Roy Cawhern.

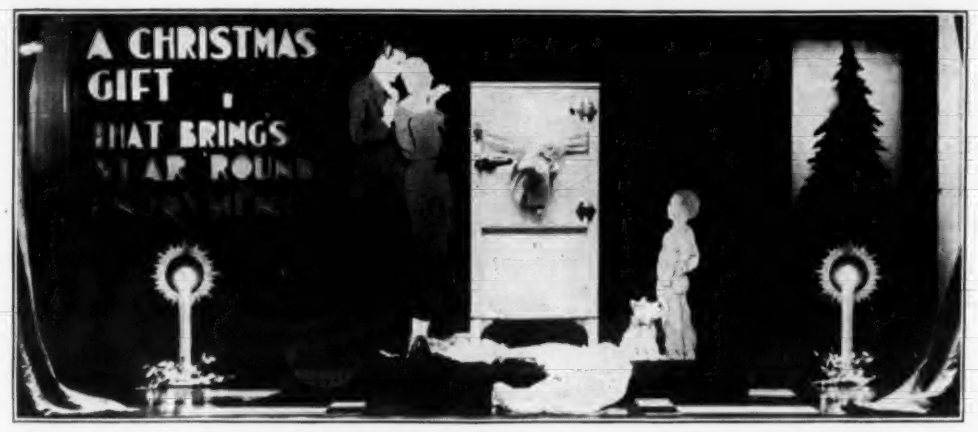
BOSTON GROUPS PLAN WESTINGHOUSE SALES

BOSTON—Wetmore Savage Co., and Wetmore Scott Co., New England distributors for Westinghouse electric refrigerators, held an all day session recently of salesmen, dealers and executives at the Hotel Bradford.

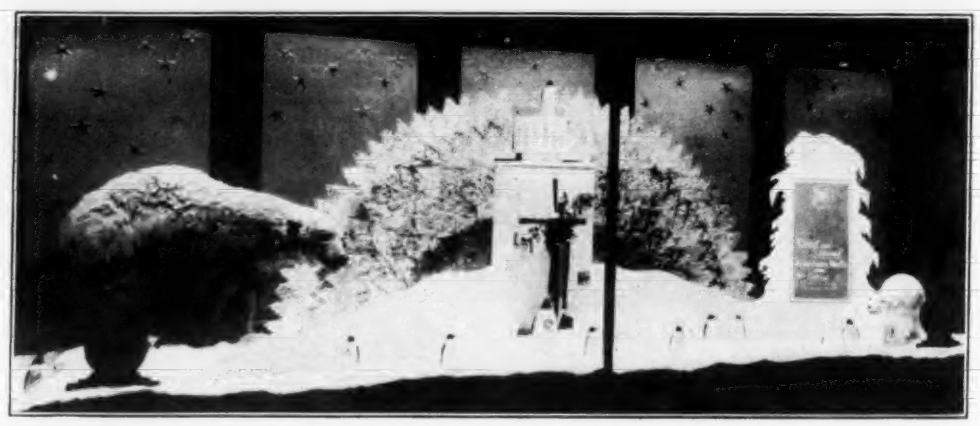
E. J. Hegarty, assistant merchandising manager for the northeastern section, outlined plans for an extensive newspaper advertising program to be augmented by daily radio broadcasts over WBZ.

In the afternoon, the Westinghouse national advertising program was presented to the gathering and was featured by W. N. Kennon, refrigerator supervisor of the northeastern district, T. J. Newcomb, manager of the eastern region of the refrigerator department, and Mr. Hegarty.

Prize Winning Windows and Stores; Field Meetings



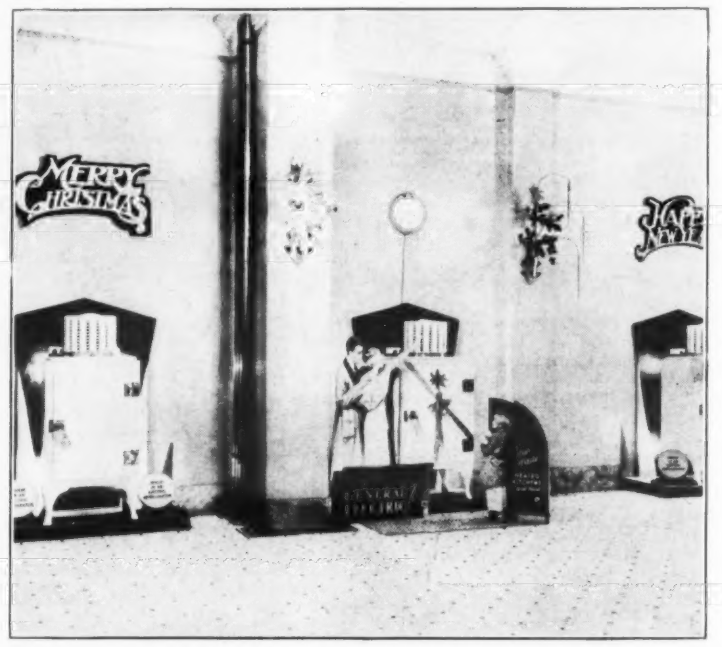
The Buffalo Electric Co., handling Kelvinator, utilizes some of its national advertising cut outs in its window display entry in the Electric Refrigeration Bureau Contest.



Here we have the Nebraska Power & Light Co.'s entry in the window display contest, using the General Electric penguins, and a frosty background to carry out the idea.

An arch with Health as the keystone is the feature of an indoor display entered in the contest by the Fitchburg Gas and Electric Light Co., Frigidaire dealer.

A glistening Christmas tree, a refrigerator in bright holiday wrappings won a prize for the Pennsylvania Power & Light Co. when used in an indoor display.



Simply arranged against a plain painted wall was the indoor Christmas display of the Utah Power & Light Co., Ogden, Utah. The store won one of the $100 prizes in the recent contest.

T. E. Flack, who is director of retail sales and manager of the Starr Piano Co. Sales Corp. stores.

Everything in the display of the Western Counties Electric Co. Amherst, Mass., directed the eyes toward the central object, the General Electric refrigerator.

George Gray, newly appointed Southwestern district manager for Leonard Electric Refrigerator Co.

Frigidaire men meet in Chicago at Bismarck Hotel to discuss plans of merchandising for 1932. The new Moraine line was introduced at this meeting.

Dealers and salesmen of the Frank Johnson & Son Co., Westinghouse distributor in Chicago, attended the Chicago distributorship convention.

ELECTRIC INSTITUTE BUILT BY HARRISON

NEWARK—Work was started last week on a Model Kitchen, in the rear of Philip H. Harrison & Co.'s branch showroom in East Orange, to be used as a demonstration exhibit for G. E. refrigerators, G. E. Hotpoint ranges, and a model kitchen layout.

The exhibit will be of a permanent nature and will form a stage setting for a lecture room where women's clubs and groups may conduct parties and meetings, and hear lectures on home economics.

Companies Furnish Supplies

The construction and decorating is being done by Schulz & Behrle, interior decorators, Newark; electrical work by Leon C. Fund, Livingston; metal cabinets by Elgin Stove & Oven Co.; Belgian tile to be installed by Industrial Sales Co., Newark; working surfaces and trim of Formica, by Formica Insulation Co.; rubber flooring for kitchen and Durite for lecture room by U. S. Rubber Co.; plumbing by S. F. Wilson, Newark; dishwasher sink by Walker Dishwasher Co.; Merryway food preparer by Hoe Mfg. Co., Poughkeepsie, N. Y.

Mrs. Foster, Miss Wood in Charge

The new hall will be known as the Philip H. Harrison & Co. Home Service Institute. Mrs. Helene T. Foster, electric refrigeration specialist, and Miss Alice Wood, specialist on food preparation and electric range cookery, will be in direct charge. The institute will be administered by the distributor's sales promotion department manager, T. E. Babson.

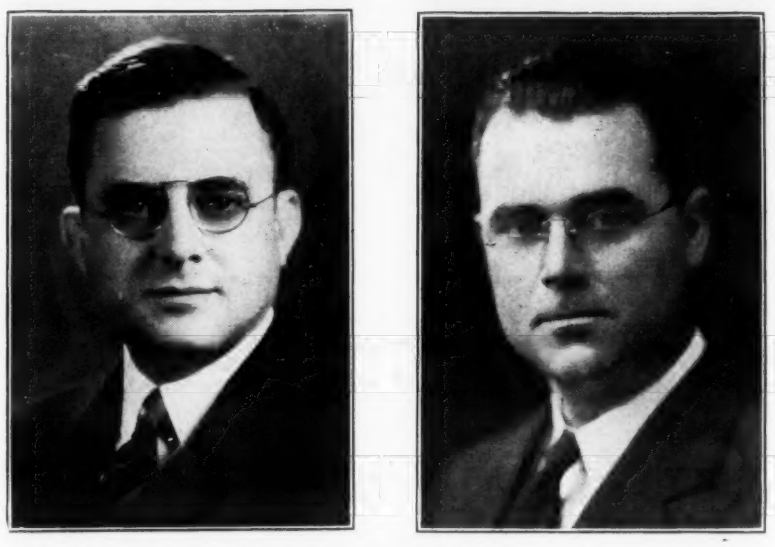
An official opening is planned for the latter part of February, to include a convention on electric ranges of Harrison company sales managers, utility representatives and dealers, and a general public reception.

POUGHKEEPSIE BUREAU SELLS 1,094 UNITS IN 1931

POUGHKEEPSIE, N. Y. — Local dealers identified with the Poughkeepsie Electrical Refrigeration Bureau disposed of 1,094 units during 1931 to provide a record year. The mark was 62 over the quota set for this territory. Approximately 25 per cent of the total were commercial units.

Already lining up prospects, local dealers expect another banner year in 1932, pointing out the fact that building developments have been going on rapidly since the start of the year.

Westinghouse Refrigeration Heads



Ralph Graves (left), and J. F. O'Donnell are the manager and assistant manager, respectively, of the Westinghouse refrigeration division.

• • •

Graves, New Westinghouse Refrigerator Sales Manager, Has Varied Career

MANSFIELD, Ohio—C. B. Graves, who recently succeeded Carl D. Taylor as manager of the refrigeration division of the Westinghouse Elec. & Mfg. Co., was previously special representative on refrigeration for that company.

Before coming to the Westinghouse company, Graves was the vice president and general manager of the Standard Home Utilities Co., a company which he was instrumental in organizing and operating.

Previous to his affiliations with the Standard Home Utilities Co., he was general sales manager of the Detroit Vapor Stove Co. He served in that capacity for about four years. He built up a record as general sales manager with the Federal Electrical Co. in Chicago in which capacity he served for 10 years, prior to his joining the Detroit Vapor Stove Co.

Graves was named manager of the refrigeration department soon after the first of the year when Taylor left the Westinghouse company to join the Elin Co. of Philadelphia as vice president and general manager.

Working with Graves is J. F. O'Donnell, assistant manager of the refrigeration division. O'Donnell has been with the Westinghouse company a number of years.

He was syndicate representative for the merchandising department in New York, and then came to Mansfield as sales supervisor of the refrigeration department. In this capacity he had charge of all field supervisors. Later he was made assistant to Taylor.

SAN FRANCISCO MUSIC CO. MADE KELVINATOR OUTLET

SAN FRANCISCO—Appointment of Sherman & Clay, music house, as Kelvinator distributor for the five Bay district counties—San Francisco, Marin, Alameda, San Mateo, and Contra Costa—is announced. The appointment is for the entire field—domestic, wholesale, apartment house, and commercial, and was effective Jan. 1.

W. V. Baitinger, sales manager for the radio and Kelvinator division for the firm, will supervise the work of the new department, which has been placed under the direction of L. C. Giroux, as manager. Mr. Giroux has been associated with Kelvinator in this territory for the past seven years. He is well known as an apartment house and commercial engineer.

Assisting Mr. Giroux is W. P. Berry, wholesale contact man. Mr. Baitinger announces that the staff will be increased to its proper size as fast as experienced men can be found.

ALLEN ELECTED PRESIDENT OF PORTLAND, ME., BUREAU

PORTLAND, Me.—Kenneth C. Allen of Cressey and Allen, Westinghouse dealer, was elected president of the Portland Refrigeration Association for the first six months of 1932 at the recent annual meeting.

Erwin E. Emmons of the L. W. Cleveland Co., Norge dealer, was elected vice president and Guy G. Smith of the Cumberland County Power and Light Co., Kelvinator distributor and General Electric dealer, was reelected secretary.

According to Mr. Smith, who is also secretary of the Portland Electric Refrigeration Bureau, 2,012 electric refrigerators were sold in the Portland trading area in 1931.

FRIGIDAIRE DEALER SPONSORS POPULARITY CONTEST

TACOMA, Wash.—In conjunction with the Rialto Theatre, E. W. Reynolds, local Frigidaire dealer is sponsoring a popularity contest, with a household electric refrigerator as the first prize.

As a supplementary contest a set of glassware was offered during the first month of the contest for the best frozen dessert recipe.

This contest was promoted through a local radio station and Mrs. F. W. Sayre won the first prize. Mr. Reynolds reports a considerable increase in his business volume as a result of the contest.

60 KELVINATOR DEALERS AT OKLAHOMA MEETING

OKLAHOMA CITY—Sixty state Kelvinator dealers attended a one-day display of new models of the refrigerator, Jan. 20, at the Huckins hotel, under the direction of Tom Cooper, state distributor, who presided over the meeting.

A. M. Taylor, director of advertising, from Detroit and Vance Woodcox, manager of sales promotion, Detroit, were speakers on the program.

A special prize award of a check for $100 from the factory was presented to Salesman G. L. Carr.

SIDELIGHTS AND STORIES OF

Through a Woman's Eyes

FRIGIDAIRE QUOTA CLUB CONGRESS

By Gertrude Stanton

Bad Winds

The Frigidaire B.t.u. Quota Club almost had no president and vice president, and what a tragedy that would have been, because the two "big men from the South," Messrs. Wolfe and Kirby, were two of the most popular men at the meeting.

But we digress. It seems that since it was a holiday, they decided to go by air from a meeting place in Florida (they come from Tampa and Miami, respectively) to Atlanta, there to meet the rest of the delegation from the Southeastern Region, and come by special train the rest of the way to Dayton.

Or perhaps they are in the classification of men to whom flying is no longer a treat, but merely the quickest way between two points. At any rate, they decided to fly.

Came a storm. Plane buffeted by winds and so on, and, "we are lost the captain shouted, as he staggered out on a wing." That sort of thing. The pilot had to make a forced landing before Atlanta was reached.

A complication in the situation arose from the fact that Mrs. Kirby had objected to the flight because of a fear she had of airplane travel. Just to quiet her own nerves she phoned Atlanta, and was told that the plane was overdue, and had probably been forced down because of the storm. Those in Atlanta were rather on tenterhooks themselves, and it is easily imagined what Mrs. Kirby must have gone through until her husband called her long distance to assure her of their safety.

Mr. Wolfe, the president, was attending his third Quota Club Congress, having been with Frigidaire four years; and Mr. Kirby, who started with Frigidaire in 1929, won trips to Dayton in 1930 and 1931. Mr. Wolfe has consistently sold over a three-year period more than $1 F.O.B. business each year for every man, woman, or child in his territory.

They both look like successful men. They are both young, late twenties or early thirties. Mr. Wolfe is tall and dark and smiling, and Mr. Kirby is medium-height, and blonde, and smiling. And why not smile, when you are a success at an age which, a few years back, would have been considered callow youth?

We got a rise out of them, simultaneously, and unintentionally, by asking them if they rely on "cold canvass."

"No," they bellowed. Or if they didn't bellow, they would have liked to.

"We use our users," elaborated Mr. Kirby, and "the factory people won't agree, but it's different selling in the South," averred Mr. Wolfe.

Both of them agreed that the reason cold canvass is of less importance to them than to other salesmen is that in their towns they "know everyone." Everyone is a neighbor, and a friend, and the gospel spread by satisfied users, in addition to this true Southern friendship (aha, fooled you, we didn't say Southern hospitality), keeps their prospect lists long and flourishing.

* * *

Snipers

Vainly we watched for the Frigidaire snipers in the Moraine plant. No, Horace, they are not afraid of spies from rival refrigerator concerns. The snipers snipe sparrows. It seems that in summer, because of the large, airy building and the number of windows thrown open, the sparrows are everywhere—in the porcelain bath, in the de-porcelaining bath, in the ovens, wildly trying every way to get out of the building, but never trying the exits. The snipers, two in number, stalk about the plant with rifles, and where they pass, sparrows are no more—for a few minutes.

On entering the plant—we started at the end of the production line and went forward—we noticed a sign saying "please keep off the conveyor tracks," and scoffed and scoffed and scoffed, wondering who on earth would be tempted to get on the slowly moving treads.

About three-quarters of the way through, however, having walked miles, we looked wistfully at those tracks, and at the porcelain cabinet-linings which slowly passed us, wondering if we couldn't fit ourselves into one of them and just quit walking for a minute—even half a minute would do.

The publicity men stood waiting for the busses to arrive at the Moraine plant, with cameras all ready to take the picture of the congress en masse. Flags were waving in welcome, everything was set, but something seemed lacking to one of the men. Then the whistle blew signifying time for some group or other to go to lunch.

"That's an idea," shouted the publicity man above the noise. "Let's have them blow that whistle when the busses enter the yard, as a welcome."

His enthusiasm for the idea was soon quelled, however, when he was informed that the blowing of the whistle would mean time to leave to so many people there that by the time the busses were unloaded, the Moraine plant would have been deserted.

The idea of the Quota Club Congress is not a lot of work for the delegates, as at the ordinary convention where every man is stuffed with information regarding new lines, new sales points, new advertising tie-ups, high-powered enthusiasms. As someone said, "These men know about all there is to know about selling, and what they're here for is to be shown our appreciation for the job they've been doing." So they are royally entertained.

A look at some of the records will show whether they really are good or not, in case anyone needs to be convinced.

Here's the man, C. E. Wildberger, of St. Louis, for instance, who has been with Frigidaire for eight years, and who has never dropped below his quota.

There are two men, a dealer and a salesman, each responsible for more than half a million dollars' worth of business in 1931—each of them, singly, individually. As you walk among them, it seems that an unbelievably large percentage are "repeaters," and have been Quota Club Congress members more than once, and even two, three, and four times. There are several who have been members ever since their first year as Frigidaire men.

A delegate from Dallas, Tex., Mr. Fry, sold 48 Frigidaires in 10 days last year. Mr. Watts, from Baltimore, sold six jobs in one day last summer. Here are men with more than 400 per cent quota to their credit. Mr. Markham, from the little town of Webb City, Mo., sold more than 350 per cent quota, in a year when the mines which support Webb City were closed down a good portion of the time.

And these men represented approximately $15,000,000 worth of installed business.

* * *

Impartial

Mr. Newell, the new vice president in charge of sales, was undoubtedly the "wow" of the congress. He had been on the job only since Monday—the congress started on Thursday—and he might have been forgiven if he had seemed to tremble a bit at such a plunge into his duties. There was no chance to ease up on the job gradually.

He seemed to have a big time, though, and when 187 men got on their feet and cheered for him at least three times during the course of the various sessions, it would seem to indicate that he started his job at full speed. As someone from the Chicago delegation shouted from the back of the room near the close of the convention, "we like yuh—see?"

One of his biggest hands came when Mr. Newell showed the delegates a piece of paper in his hand carrying a big order brought with them by his old gang, the New England delegation. He grinned and asked that the congress give the New England men a big hand-clap, which the congress did, with vigor. Then Mr. Newell stood quietly for a moment, folded up the paper and said:

"That's my last partiality to New England. That's over, and in my pocket." He waved his empty hands. "From now on, it's the United States of America!"

Mr. Newell and Mr. Newill (the engineer) are already getting mixed up. Even in the first week that the first Mr. Newell had been at the factory, or perhaps he should be called the second Mr. Newell, because Mr. Newill was there before he was. But Mr. Newell comes before Mr. Newill in our sentence. At any rate, a long distance call came from New York for one of them, and Mr. Newell answered. "This Newell?" "Yes." The conversation continued, but didn't seem to make sense at either end. Finally the man in New York got the difficulty, and said "Say, are you Newill-engineering, or Newell-sales?" That's the best way anyone has found of distinguishing them yet.

* * *

Good Porcelain

The master of ceremonies—and was he good—had singing contests, whistling contests, and pounding-with-spoons contests at various sessions just to start things going. One of the spoon-pounding contests took place at the Moraine plant at luncheon. Tables in the plant cafeteria are porcelain-topped, and although no one checked up, one assumes that they were made of Frigidaire porcelain.

The noise was terrific, and the pounding vigorous. They didn't realize the length of the hike later on in the afternoon or they would have saved their strength. After the pounding contest had been declared a tie (safest way out, of course), with one accord about 50 per cent of the men lifted up the tablecloth and examined the porcelain anxiously, then fatuously, as they saw that not a scratch, not a chip had been taken off by what one would consider a rather trying test. Good sales point, gentlemen.

Still another porcelain test was planned but failed to take place at all, it was to have been part of the banquet program. A Frigidaire was wheeled out onto the stage, the door opened, and a petite tap dancer was discovered, curled up inside the refrigerator.

The master of ceremonies lifted her to the top of the cabinet, and stood her there, and she started her dance, but suddenly stopped. "I'm scared," she wailed. "Please let me down." So she completed her dance on the prosaic wooden floor of the stage.

We wandered into the Hotel Biltmore—headquarters for the congress—the night before. Everything was piled in the middle of the floor, but there was not the hustle and bustle which usually accompanies the putting up of decorations and the arrangement of exhibits. Everyone seemed quiet. We thought it was a lull before a storm of last minute preparations, but it wasn't.

Instead, it was a lull after a storm. Everything was up—attractive festoons of balloons, and greenery, and silk lanterns. Everyone stood back to view the beauty of the room, when with the proverbial dull sickening thud, this time accompanied by a sharp tinkle of breaking glass, one of the beautiful glass, or maybe crystal, chandeliers gave way and carried about a third of the decorations to the floor with it.

At the time we arrived it had come to a point where everyone had run out of words, and was sitting depressed at the limitations of the English language.

* * *

Most Popular Subject

Air conditioning was the subject on everyone's lips, and it will be a busy season for hay-fever sufferers, by the looks of things. Experiments show, and Mr. Engineering Newill's personal experiences bear out the fact, that being in an air conditioned room relieves hay fever for the time being.

It doesn't cure it—far from that—but as Mr. Newill said, with an air conditioned office and an air conditioned bedroom, one can be comfortable while working and sleeping, and at least keep the horrible ailment from entirely getting one down.

Ah yes, Mr. Newill, ah yes. But what excuse will one make for going on that fishing trip up in the Northern Peninsula during the goldenrod season? No sight excites more sympathy, no excuse is more unanswerable, than that of a bleary-eyed, exhausted individual who is enjoying an attack of hay fever.

Men who served in the Army of Occupation told with hearty laughs of the old German peasants with whom some of them happened to be quartered, who begged them to shut the windows against the "poisonous night air."

We may all be doing that if this air conditioning business keeps expanding. The air outside, freighted with dust particles, and smoke, and other bits of matter which make it easy for disease germs to ride right into the human body, will be so much more dangerous than the carefully cleaned, cooled or heated, air inside, that perhaps the hygiene books will need a thorough rewriting.

FRIGIDAIRE CONGRESS HONORED IN DAYTON

(Concluded from Page 1, Column 3)

Mr. Jamerson followed the installation with reading a list of the 25 men in the high districts placing from eleventh to thirty-fifth. He also introduced F. M. Connors, of Seymour, Conn., who was the first man to qualify for the B.t.u. Quota Club in 1931.

E. G. Biechler, president and general manager of Frigidaire Corp., gave his "keynoter" address in which he complimented the selling "stars" on their volume of business for the past year, and assured them that, so far in January, Frigidaire sales show an increase over the same period in 1931.

He called attention to the new line of air conditioning equipment just made available to them, and pointed toward the new Moraine line of household refrigerators as a means of increasing their sales volume.

Newell Introduced

Mr. Newell, new vice president in charge of sales, was introduced by Mr. Biechler, and told the salesmen that because he had just come from the field with the field viewpoint, he hoped to help in merging field and factory viewpoints into one.

In emphasizing the importance of this merged outlook, he said:

"Many organizations have been wrecked by a good sales organization not backed by sound management."

He discounted plans which hang up large sales volumes, but do not take care of the man in the field, adding "What's the value of a sales volume if it doesn't make money?"

Seven busses—with two new Buicks for the officers and cabinet members—transported the convention delegates en masse to the Moraine plant, where a convention picture was taken, and where C. R. Godfrey, vice president in charge of production, welcomed the salesmen.

That there had been better operation in the Moraine plant this winter than for four or five years previously was his statement, thanking the salesmen for their part in keeping an added volume of men at work. He called attention to booklets given them which described the operations which they were later to see.

Tour Moraine Plant

Following luncheon in the plant cafeteria, the salesmen toured this "largest one-story plant in the world" and saw the making and assembling of Frigidaire cabinets from beginning to end of the process. Great crowds collected around the porcelain ovens and the metal stamping machines to watch operations.

C. F. Kettering, vice president in charge of research for General Motors Corp., and Mr. Biechler were principal speakers at the banquet last night, both dwelling at length on the possibilities in air conditioning in the future.

Houses with no windows except for lighting within the next 10 or 15 years were predicted by Mr. Kettering, who emphasized how new air conditioning for the home and office really is.

"To have the windows which are placed in the modern home," he said, "is no better than if we placed ice cakes there instead. And we try to be comfortable under these conditions!"

Mr. Kettering believes that we are now discounting the future just as much as we exploited it during boom times, and that until we rediscover that the future is just the same as it always has been—no better and no worse—the depression will continue.

"We can't build on the future," he said, showing that extremes of exploitation and discounting were both wrong, and emphasizing the need to analyze present conditions and use initiative in meeting them now.

He characterized both money and credit as being "scared," but remarked that it is still there to be had.

Biechler Speaks at Banquet

Mr. Biechler also spoke on a "back to prosperity" attitude, and added to Mr. Godfrey's remarks at the luncheon concerning the employment of added workers at the two Dayton plants. He advocated as a third plank to Mr. Newell's platform, "Let's keep these fellows working."

Mr. Biechler outlined specific projects of the Frigidaire Corp. in the field of air conditioning so far, and emphasized a request to the salesmen to get their share of the unsaturated air conditioning market.

Mr. Newell, as toastmaster, introduced various men at the speakers' table, including E. B. Newill, vice president in charge of engineering; E. D. Doty, advertising manager; J. J. Nance, manager of the sales planning division; B. J. Vandoren, commercial sales manager; C. A. Copp, assistant general sales manager; and B. B. Geyer, president of The Geyer Co., Frigidaire's advertising agency.

Mr. Copp spoke briefly, characterizing the sales organization as "better than ever before in Frigidaire history," and was followed by Mr. Geyer, who promised a comprehensive advertising campaign for 1932. He stressed the Moraine line and the new air conditioning equipment as two important cogs in raising sales volume.

"Senator" Edward Ford, nationally known humorist, proved that nothing is so funny as a laugh at one's own expense, and served out quips at the expense of Frigidaire, General Motors, and the various executives in the crowd as a leaven to the after-dinner speech period.

Rousing Frigidaire songs, a series of dances by a well-trained chorus, an accordion player and two darky comedians—the time-honored convention favorites—were introduced by Mr. Powers, master of ceremonies, as part of the entertainment.

Following an "early-bird breakfast" this morning, the busses took the salesmen to Plant No. 1, to see the manufacture of the Frigidaire cooling units. A second business session convened after luncheon in the hotel.

E. B. Newill, vice president in charge of engineering, spoke non-technically on the principles of air conditioning, emphasizing, as one of the questions which is bound to come up in selling such equipment, the fact that carbon dioxide content in air is not what makes the air offensive.

In explaining this wide-spread fallacy, he outlined the three points which actually do contribute to "bad air" in a room, namely, heat, humidity, and what he called "aerial sewage," or the odors from human beings, tobacco smoke, etc.

Mr. Newill quoted "our patron saint, Mr. Kettering," as saying that if every salesman would wear a badge stating that "I am a wet-bulb thermometer" thus stirring up interest in wet-bulb thermometers and their added efficiency in determining room comfort, that air conditioning equipment would be easily sold.

He introduced the Frigidaire air conditioning line, showing both vertical and horizontal types of units for various requirements in home or office, calling attention to the attractive wood and simulated wood finish of the cabinet. The units are equipped with refrigerating apparatus as standard equipment, but heating coils, for which there is also room in the cabinets, come as added accessories.

Mr. Newill also called attention to the fact that a 3-hp. compressor (as opposed by the 1½-hp. units used in the individual cabinets), can be had for use in special installations or for attachment to two air conditioning units.

For example, the living room may be cooled in the day time, and by a switch something like an electric light switch, the condenser may be changed to operate the unit in, perhaps, the bedroom at night. Although this 3-hp. unit is not yet ready, he promised it for the spring campaign.

As a contributing factor to air conditioning, Mr. Newill outlined some of the methods now undergoing experiment for excluding the red and infra-red rays of the sun, which give heat, which admitting the ultra-violet and light-giving properties of the sun to air conditioned rooms.

He showed an example of specially made glass which may be developed later for use in windows. A thermometer under the special glass, through which light was directed, registered only 86°, as compared with 95° registered by a thermometer under ordinary glass. He explained that Frigidaire Corp. "will not ask you to sell glass," but that he introduced it just as a matter of interest.

Mr. Doty, advertising manager, introduced charts to show that Frigidaire plans the "largest radio campaign ever put on by any electric refrigeration manufacturer," and outlined plans also for advertising through national magazines, newspapers, direct mail, billboard, and window display media.

Double-page spreads are to carry the Frigidaire message in the national magazines this year. Mr. Doty calls the campaign the "Super-Power" campaign, since emphasis is being laid on the extra, surplus cooling power which Frigidaire offers. Added cooling and freezing action, held in check by the "cold control" will be the 1932 advertising theme, he reported.

B. M. Vandoren, commercial sales manager, arranged for a short playlet which showed a salesman who had begun to rest on his past reputation, and who was suddenly made to "snap out of it" and go out after new prospects and sales by the taunts of the various Frigidaire units which stood in his showroom.

J. J. Nance, in charge of sales planning, gave a wind-up speech pledging cooperation with the field, and asking them to pledge cooperation to Mr. Newell in return, following which presentation of the Quota Club Congress watches took place.

The watch, a Gruen 17-jewel hexagon-shaped time-piece, is specially designed for presentation purposes. On the back is engraved the Quota Club insignia, the winner's name, and the year of presentation. Each man was awarded one of these watches as a gift from Frigidaire Corp.

Congress statistics indicated that 37 dealers, 46 supervisors, and 104 salesmen were present. The high men of the various districts not represented by officers and cabinet members were called senators, and the rest representatives.

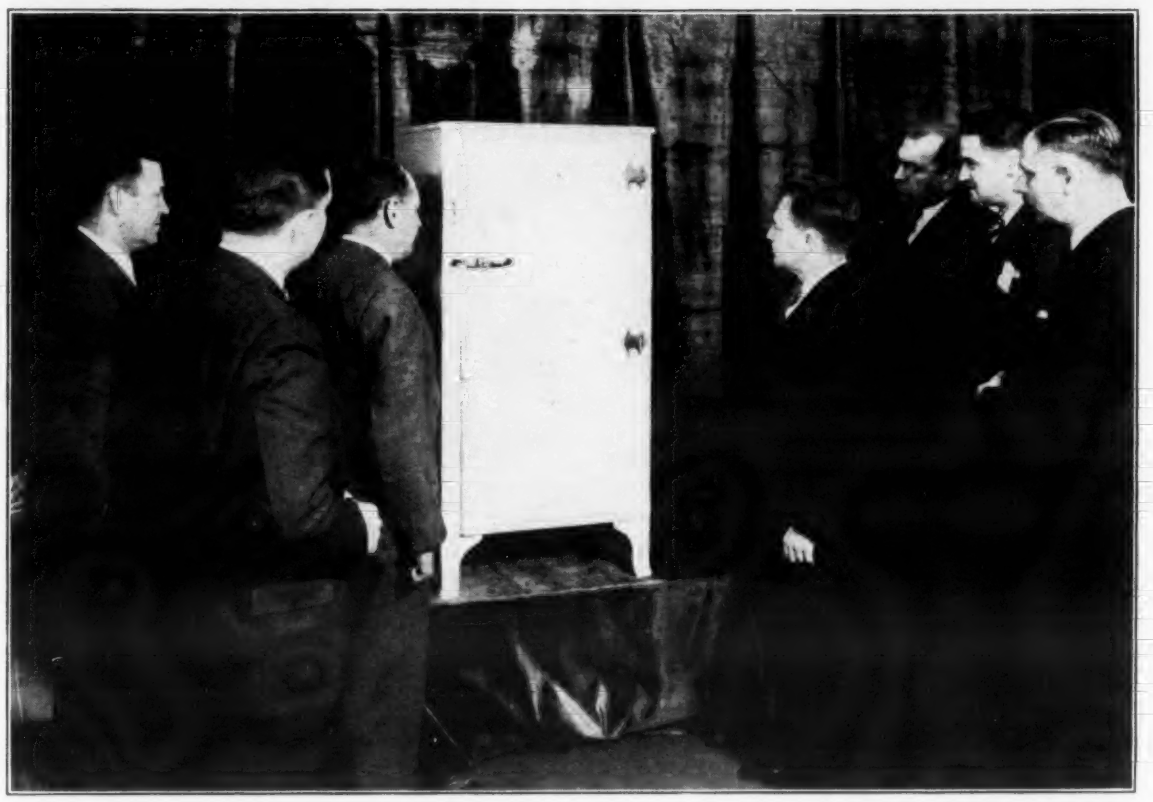
Fifty-one of these men sold more than 200 per cent of their 1931 quotas and, of these, four sold more than 300 per cent, and one more than 400 per cent of the year's quota.

The high salesmen, from the percentage of quota standpoint, include: Frank Pollard, of Oakland, Calif., who sold 451 per cent of his quota; O. L. Markham, Webb City, Mo., 357 per cent; L. J. Waltman, Liberal, Kan., who sold 311 per cent; and L. B. Rogers, Bowling Green, Ky., who sold 320 per cent.

From the volume standpoint M. J. Goldstone of Chicago stood forward, with sale of 10,961 B.t.u's during 1931, or a volume of more than a half million dollars worth of business. After him came J. L. Brown of New York, with 7,347 B.t.u.'s; J. Gordon, Chicago, with 6,759 B.t.u.'s; and J. Theobold, Chicago, with 5,633.

High dealers from volume standpoint were E. J. Donnelly, of Far Rockaway, L. I., with a record of 10,731 B.t.u.'s; H. W. Bush, Elizabeth, N. J., 8,793; L. L. Silkenson, Galveston, Tex., with 4,144; and John W. Kelly, Perth Amboy, with 3,683.

Frigidaire Executives View Moraine Line



Executives of Frigidaire Corp. study new Moraine line which was announced last week.

LITTLE STORIES OF INTERESTING PEOPLE IN THE REFRIGERATION INDUSTRY

THE EXPANSION VALVE

LITTLE STORIES OF INTERESTING IDEAS IN THE REFRIGERATION INDUSTRY

By George F. Taubeneck

B. J. Grigsby

One of the first stories about industry executives that ever appeared in the "Expansion Valve" concerned B. J. Grigsby and Bill Grunow, and how they turned the radio industry inside out in the space of a few short years.

Last Thursday we had the privilege of sitting next to Mr. Grigsby at a luncheon for Majestic distributors given at Chicago's luxurious Edgewater Beach hotel.

It was an enjoyable experience. Mr. Grigsby is patently "on the inside" of many interesting developments—both industrial and governmental.

He spends much time in Washington, D. C., and his suits against the Radio Corporation of America have put enough burrs under the RCA tail to keep that august organization uncomfortable for many moons.

Mr. Grigsby talks quietly, sits quietly, is quiet. He is above all else a diplomat, an adroit manipulator of chess-pawns, a maneuverer.

For many weeks he may be working unostentatiously with no apparent results and to no apparent purpose. And then—after it's too late for any opposition to prevent it—he puts his game in the bag.

The millions he piled up so quickly have not in the least turned his head, or given him delusions of grandeur. He is still an eager learner, a seeker of information.

Revered and respected by his men, he treats them as co-workers, not hired hands.

* * *

Old Friends

Engineering Editor Jack Schaefer, who spent practically the entire week in Cleveland, is a competent reporter.

In this issue and the next he will tell you just about all that's worth knowing in connection with the joint convention of the American Society of Refrigerating Engineers and the American Society of Heating and Ventilating Engineers held in Cleveland last week.

Hence, we'll make no effort to add to the Schaefer stories about the convention, the speeches made, the machines exhibited, and the progress of air conditioning as shown there.

We would like to mention, however, that our short visit there was highly enjoyable, simply because we could chum around a bit with old friends.

There was P. J. Forsythe of Wagner Motors, for instance. This well-liked gentleman reminds one of the Chesterfield slogan. He must deserve such popularity.

Because he makes himself personally interested in those he meets, they naturally become personally interested in him.

From Servel's engineers at Evansville came young W. D. Collins, chief engineer, and C. H. Tanger, who is the "public relations man" among the Servel engineers.

Tanger is the sort of fellow who can deliver a portentous paper on some involved technical subject in the morning, show another paper-presenter where his equations are wrong in the afternoon, and be the center of a convivial gang at night.

C. T. Baker, consulting engineer from Atlanta, was easy to locate. All one had to do was look for the most beautiful woman in the vicinity, and there would be Mr. Baker handing out his usual winning line of soft-drawled southern blarney.

Now don't get us wrong about this—during the sessions of the convention he was on the front row, ready at the drop of a hat to enter the discussion of a paper and enlarge upon some of its details; and in committee conclaves he played an important role. But when the evening's festivities began, "C. T." became the chief social lion of the party.

Along with Mr. Baker from Atlanta came his pard and co-worker, O. J. Willoughby, publisher of *Refrigeration* (southern magazine for ice men).

Mr. Willoughby was chiefly interested in the air conditioning exhibits, and had some very interesting comments and predictions to make about this new field.

From General Electric at Cleveland came A. R. Stevenson, R. W. Ayres, and W. J. King, and several others. Mr. Stevenson, a newly elected vice president of the A. S. R. E., gave the most significant paper of the sessions (don't miss Schaefer's report of it).

Cleveland's General Electric aggregation was represented by W. M. Timmerman and H. T. Hulett, commercial engineering aides to Walter Landmesser. Timmerman proudly introduced a very pretty young wife.

Alvin H. Baer, last year's president of the A. S. R. E., and sales manager for Frick, was prominent in the committee sessions.

Free Wheeling in Bermuda

P. B. Zimmerman, G. E. refrigeration chief, takes a spin in Bermuda.

Present also was stately, ambassadorial Willis H. Carrier, the "father of air conditioning."

* * *

Glenn Muffly

Glenn Muffly, whose coronation as president of the A. S. R. E. was conducted at this meeting, wore his new honors lightly, his new responsibilities heavily. He is the first of the "small machine group" to be elected to this office.

Mr. Muffly is now one of the busiest men in the industry. He is consulting engineer for Copeland Products, Inc. He is a special representative on code matters and statistics for the refrigeration division of the N. E. M. A. He is president of the A. S. R. E. And he has other irons in the fire.

Almost everybody at the convention agreed that under Mr. Muffly's leadership the organization should expand, enlarge its sphere of usefulness, and become more favorably known to the public and the industry-at-large.

* * *

One on Me

The Valve must not have been himself at the "Monte Carlo" night given for the assembled engineers in Cleveland last Tuesday night.

Scarcely an hour after he had alighted from the Detroit train that night, General Electric's Mr. King congratulated him on the paper King thought he had delivered that morning.

A short time later, the Valve tried to crash the gate at a "vaudeville show" which was part of the engineers' entertainment, and which required $200 in spurious paper money for admittance. The zealous Inner Guardians of the Outer Door (both Superfex oil-burning refrigerator engineers), demanded reason why he should be admitted.

"I'm from the press," was the answer. "Aren't reporters usually admitted to affairs of this kind?"

"What paper?" was the suspicious query.

"Electric Refrigeration News. I'm George Taubeneck."

An expression of incredulity broke out all over one guardian's face, while the other burst out into hearty guffaws.

"Haw, haw! That's a good one," he chortled. "This kid says he's George Taubeneck. Better let him in on that one, hadn't we?"

And so the Valve saw the show.

* * *

R. F. Callaway

A fine old southern gentleman. Not so old, either. Perhaps "a southern gentleman of the old school" would be better.

Slow of speech and soft of voice, scarcely a trace of the Dixie drawl, but an occasional give-away provincialism like "please, suh" (following a request or inquiry).

Rose in his buttonhole, snow handkerchief flowing profusely from his upper coat pocket. Flowers in his office, a picture of a horse, a picture of a dog, an oil painting of a Pilgrim father saying "grace" before a meal.

Gray hair, glasses, an open and friendly countenance, gentle manners, invariable good humor.

All this, kind reader, refers to R. F. Callaway, vice president in charge of sales of the Faraday Refrigerator Corp.

His job requires talents somewhat different from those usually specified for a sales director.

It is not his task to set fires underneath salesmen, to load up dealers and distributors, and then show them how to unload.

All of Mr. Callaway's sales outlets are public utilities. One doesn't control public utilities, establish quotas for them, or set fires underneath them. One negotiates.

It is easy to see how well equipped Mr. Callaway is for his position.

* * *

Literate Engineer Smith

Chief engineer of the Faraday Refrigerator Corp. is Harry Smith, who is an interesting character, indeed.

Mr. Smith is tall, a bit stooped, has a hint of sly humor in his phiz, wears glasses and a stiff collar, talks in a *basso profundo* voice, and jingles small change in his trousers pockets.

He is an informal sort of person. On his watch chain is a Tau Beta Pi key, and on his vest a Sigma Xi pin—both signifying high honors and academic achievements in engineering and scientific fields. Yet he talks not as a scholar or pedant, but as a yarn-spinner unfolding tall tales beside a campfire.

Highly imaginative, he wields a picturesque collection of words. And when he explains so complex a subject (to me, at least) as an absorption cycle, it becomes a tale of magic.

He likens the Faraday intermittent cycle, for instance, to free-wheeling—just step on the gas for a time, then coast!

* * *

F-11 Solves Problem 1

Faraday engineers had four major problems at the outset, declares Mr. Smith. They were:

1. Rapidly and uniformly heating and cooling the absorbent material.

2. Stabilizing the absorbent to accommodate its extreme shrinking when the gas is driven off, and its extreme swelling when the gas is reabsorbed.

3. Devising a suitable control mechanism for regulating the refrigeration.

4. Incorporating all the elements into a design susceptible to quantity production on an economic basis.

To solve problem 1 the engineers needed a liquid to transfer heat. None then available had exactly the properties and characteristics they desired.

So they called up Kinetic Chemicals, Inc., of Wilmington, Del., the concern which manufactures the new refrigerant, F-12.

"Just give us a little time," came the answer, "and we'll have it for you."

And in due course of time a new fluorine hybrid was born. It was named F-11, and proved to be just what the Faraday engineers wanted.

It might be noted, in passing, that F-12 had a similar conception and delivery. Frigidaire engineers worked out on paper just what they wanted, and Kinetic Chemicals made it up to order.

F-11 and F-12 are thus somewhat akin to the new planet, which was predicted mathematically before it was actually discovered with a telescope.

* * *

What Will It Cost?

Announcement of the Faraday came not as a surprise to the gas industry.

Its executives knew that some years ago General Motors acquired the patents taken out by Dr. Frederick G. Keys of the Massachusetts Institute of Technology (subsequently employed in the Ice-O-Lator, which was manufactured for a time by the Winchester Repeating Arms Co.), and that General Motors engineers had been experimenting with an absorption refrigerator since 1922.

They also recalled that at the close of 1929 and early in 1930, General Motors representatives intimated that they were about to market an absorption refrigerator.

Prior to 1930 it was thought that this refrigerator would be sold through Frigidaire outlets, and as late as the summer of 1930 it was known as the Frigidaire gas refrigerator.

Then it was decided to market the Faraday through public utilities. At the Atlantic City convention of the American Gas Association in October, 1930, an absorption refrigerator was shown by General Motors.

A number of these models had already been sold through gas utilities in Chicago and Detroit, and were in actual use.

It was declared that the new Faraday would be ready for production by the first of 1931. Arrangements were made with several utilities.

Came 1931, and still no Faraday.

The story goes that late in the fall of 1930, Messrs. Sloan, Pratt, Grant, Wilson, and Hunt dropped in at Dayton to have a look at their new gas refrigerator.

They listened with keen interest while the cycle was explained, the complete refrigerator analyzed, and the production plan outlined.

Then came the questions:

"How much will is cost to build 1,000 of these machines? Ten thousand? One hundred thousand?"

The engineers had to confess that they couldn't build 100,000 at less cost per unit than they could 10,000. It was essentially a hand-made job.

Shaking their heads, the GM executives assigned their engineers the task of incorporating the features of the unit they had been shown into a machine

(Concluded on Page 17, Column 1)

Star Protects His Health

"Pepper" Martin, World Series hero, and his family.

LITTLE STORIES OF INTERESTING PEOPLE IN THE REFRIGERATION INDUSTRY

THE EXPANSION VALVE

LITTLE STORIES OF INTERESTING IDEAS IN THE REFRIGERATION INDUSTRY

By George F. Taubeneck

(Concluded from Page 16, Column 5)

which could be manufactured by automatic methods at low cost.

That meant a complete redesign of the machine.

It was necessary to select low-cost raw materials which would lend themselves readily to machine operations.

It was fundamental that they employ sheet steel and punch presses, bar steel and automatic screw machines.

Within a year the project was completed.

In January of this year, the revamped Faraday was shown to a group of gas utility executives, and a number of models shipped out to these utilities for tests.

Production lines are getting under way this month.

* * *

B. B. Geyer

B. B. Geyer, whose advertising agency will help build public acceptance of the Faraday refrigerator (the Geyer agency also has the Frigidaire account), is a stimulating individual, indeed.

Young, lithe, alert, dark eyes contrasting with a ruddy complexion and gray hair—cut in an athletic pompadour style—he is a vigorous specimen of manhood.

His deep voice rings with assurance and authority; his firm gaze inspires confidence and implies trust.

Notwithstanding his athletic appearance, his direct manner, and his controlled actions, there are about him tell-tale clues of the artist, the dreamer, the poet.

Imaginative, sensitive—yet a business man.

* * *

Faraday and Kelvin

Why did General Motors executives chose the name Faraday for their new absorption refrigerator?

The reason is much the same one that prompted the name, Kelvinator, Faraday, like Lord Kelvin, conducted experiments upon which the modern science of refrigeration is based.

Both men also helped lay the foundation for the present body of knowledge of electricity. Perhaps you would like to know something about each of these early pioneers.

It has been nearly 110 years since Michael Faraday conducted the experiments in Sir Humphrey Davy's laboratory in London on which present principles of refrigeration are based.

He produced the first artificial refrigeration effect on record, he utilized the absorption principle, and his absorbent was a solid—all of which gives the Faraday absorption unit, using a solid absorbent, some claim to the use of his name.

His discovery of refrigeration by absorption came as a secondary result of his experiment to prove that gaseous ammonia can be liquefied.

He combined gaseous ammonia with silver chloride, sealed it in a glass tube, bent the ends, and applied heat. Ammonia was driven off in to the other end of the tube, which was being cooled. At this cooled end the ammonia vapor condensed to a liquid. This was the first liquid anhydrous ammonia ever produced.

Faraday observed, and carefully noted the fact in his detailed report of the experiment, that when he removed the gas flame, the liquid ammonia boiled violently at a lower temperature and lower pressure. That end of the tube became quite cold.

And that, ladies and gentlemen, was the first artificial refrigeration.

Michael Faraday was born in 1791, the son of James Faraday, a blacksmith. His first job was that of errand boy for Riebau, a bookbinder and stationer, in Jacobs Well Mews; at 13, he became a bound apprentice to Riebau, and because of his exemplary conduct was accepted without the usual fee.

Faraday lived at Riebau's shop for eight years, and here met young Abbott, to whom he wrote the letters which form a basis for much of the biographical material known about him.

Someone gave him tickets to a series of four lectures by Sir Humphrey Davy in the Royal Institution.

Faraday attended these, took copious notes, wrote them out carefully in a quarto volume, and sent them to Davy, asking to be enabled to devote himself to science.

His notes were so well written that Davy hired Faraday as a helper, at 12 shillings a week.

Faraday assisted with lectures on natural philosophy, reading everything he could get his hands on in the meantime, and joined the City Philosophical Society. There he began to lecture on chemistry. He also assisted Davy in laboratory experiments.

In the autumn of 1813 he went abroad as an amanuensis with Davy and his wife, visiting France, Switzerland, Italy, and the Tyrol.

His first contribution to science was an analysis of caustic lime from Tuscany, which appeared in the *Quarterly Journal of Science* in 1816.

From this time on, various notes and papers appeared from time to time; in 1829 a paper, "Two New Compounds of Chlorine and Carbon, and on a New Compound of Iodine, Carbon and Hydrogen," appeared in *Philosophical Transactions.*

His scientific career, by this time so well begun, has been divided by some writers into two parts; that which he did in the field of chemistry, and his studies in the field of electricity.

In chemistry he studied the diffusion of gases, investigated various steel alloys, invented various new (and at the time impracticable) kinds of optical glass, and made various contributions toward improving laboratory methods, besides the studies which have already been mentioned.

Biographers separate his electrical discoveries into two periods which were divided by a severe illness in which he was forced to drop everything for three years.

He began in the field of electricity by constructing a voltaic pile composed of seven halfpence, seven sheets of zinc, six pieces of paper which had been soaked in salt water, and by decomposing magnesium sulphate with this pile.

In 1820, he went through the discipline of writing a "History of the Progress of Electro-Magnetism," and later attacked the subject of "Magnetic Rotations."

His first electrical discovery followed closely on the heels of this study. It was the production of a continuous rotation of magnets and wires conducting a current around each other. He used an iron hoop, winding two silk-covered wires around it, parallel to one another.

His crowning electrical discovery, however, was in 1831, when he discovered the domain of magneto-electricity and the induction of electric currents.

About this time he recorded the fact that all kinds of electricity, produced by any means (with a pile, gymnatus and torpedo, magno-electricity, or thermo-electricity), are identical.

He wrote also that "every unit of positive electrification is definitely related to a unit of negative electrification," and laid especial emphasis on this fact.

About 1841 his health broke down, and his mind was also affected, so for three years he rested in Switzerland, and in 1845 returned to his laboratory to contribute two discoveries: (1) the effect of magnetism on polarized light, and (2) the phenomena of diamagnetism.

In the first of these experiments he used some of the heavy optical glass which he had developed years before.

He had served as professor of chemistry of the Royal Institution, London, since 1833, and had, since 1835, been receiving a $1,500 annual pension from the government.

In 1845 he refused, and consistently refused, subsequent offers of the presidency of the Royal Institution. He died in 1867 in a small house on Hampton Court, placed at his disposal by Her Majesty.

Faraday was a likeable man, short, well set, active, with brown curly hair. He enjoyed talking with an Irish brogue which, with his given name, Michael, gave rise to the belief that he came from Irish parentage.

His copious notes and correspondence have left the story of his scientific contributions in great detail.

And now about William Thompson, Baron Kelvin of Largs, for whom Kelvinator is named. He and Michael Faraday were fast friends for years, and it was he who interpreted Faraday's discoveries concerning electricity to the laymen, who made electricity into something more than a laboratory curiosity, overcame the fear of it that people generally had, and demonstrated its economic importance.

Although Faraday is usually accorded the honor of having established the main theoretical principles of electrical science, Kelvin may be said to have "humanized" them.

William Thompson was born June 26, 1824, in Belfast, Ireland, the second son of Joseph Thompson, LL.D., later professor of mathematics at the University of Glasgow.

In 1841, "Willie" Thompson, aged 17, weight 122, entered Peterhouse College, Cambridge, and before his graduation in 1845 had distinguished himself as an athlete and a scholar. He won a medal for being a crack oarsman, and the Smith's Prize for scholarship.

The following year, at the early age of 22, he accepted the Chair of Natural Philosophy at Glasgow University, which chair he filled for 53 years.

In 1842, Thompson collected enough money from his father, and from doing odd jobs himself, to study in Paris with Regnault, who was then working on his classical researches on the thermal properties of steam.

During that year, he met Fourier, the author of the book about heat, "La Theorie Analytique de la Chaleur," which seems to have been the first attempt to apply mathematical analysis to the movement and other phenomena associated with heat. Other scientists whom he met at the time were Fresnal, Ampere, Arago, and Biot.

In 1848, Thompson proposed his absolute scale of temperature, which is independent of properties of any thermometric substance.

His first important research evidence was presented to the Royal Society of Edinburgh in a paper on the "Dynamic Theory of Heat," which placed it and the fundamental principle of the conservation of energy in universal acceptance. This paper stated the principle of the dissipation of energy for the first time.

Through thermodynamics, which remained his central interest and loyalty throughout his scientific career, it was natural that his studies should carry him from the study of heat over to the study of cold. He was interested to note the cool early morning presence of the dew on vegetation; he noted that when, by pressure, a solid is changed to a liquid or a liquid is changed to a gas, the process absorbs heat from its surroundings, and that when, vice versa, any gas is changed to a liquid or a liquid to a solid, the process gives off heat.

His interest in what he called the hygiene of foods, i. e., food preservation, was of long standing, and came from the time when, as an undergraduate, he was keeping himself in training for athletics. It is conceivable that he saw some connection between his studies in thermodynamics and the preservation of food.

Although his contributions to thermodynamics are the most important scientifically, it is in electricity, especially in its application to submarine telegraphy, that he is best known.

By 1854 he was prominent among telegraphers. The stranded form of conductor was developed due to his suggestion. He produced a mathematical theory of signaling through submarine cables, and concluded that in long cables the retardation due to capacity must render the speed of signalling inversely proportioned to the square of the cable's length.

To correct this defect, he set to work and, as a result, produced the mirror galvanometer and the siphon recorder.

The electric meters used in homes today are the result of his research. As early as 1855 he investigated wireless.

In 1861, he induced the British Association to appoint its first committee for the determination of electrical standards. In 1873, still indefatigable, he undertook a series of articles on the mariner's compass. So many questions arose in his mind that he reconstructed the compass to compensate both the permanent and temporary magnetism of the ship.

He invented sounding apparatus, a tide gauge, tidal harmonic analyser, and tide predicter. He also constructed tables to determine the position of a ship at sea.

Lord Kelvin wrote 300 original papers, and was a lecturer of note, yet in spite of his standing, he was so diffident that not much of his personality intrudes in his writing.

That he was kindly and virtually inspiring to his students is noted, however, when the Encyclopaedia Britannica says that the progress of physical discovery during the last half of the 19th century was perhaps as much due to the kindly encouragement he gave students . . . as to his own researches and inventions. Praise could not be higher.

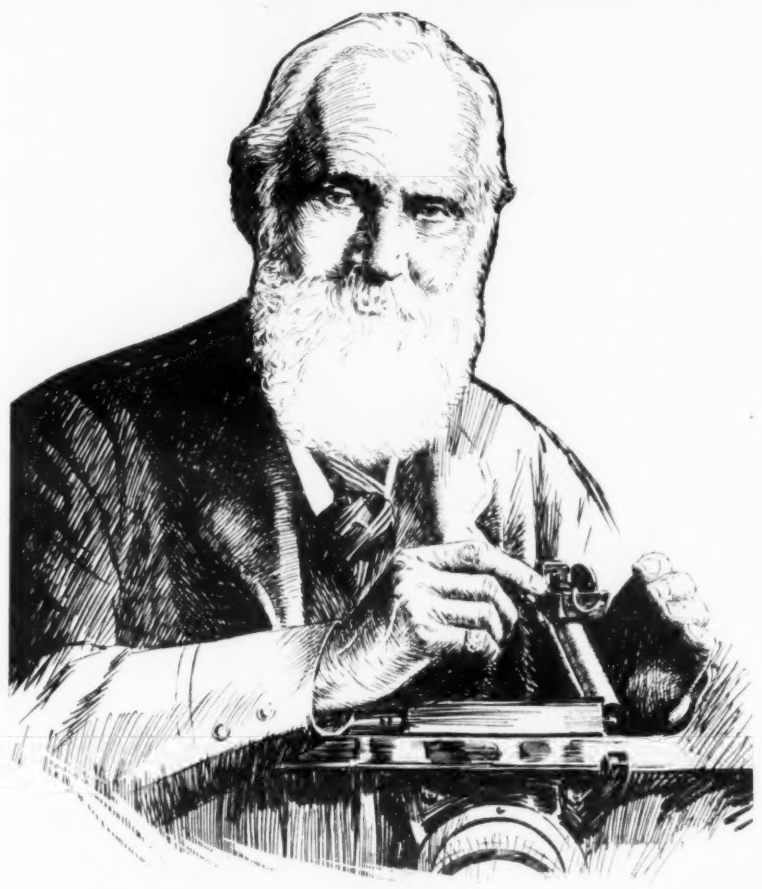
In 1866 he was knighted, and in 1892 was made Baron Kelvin of Largs. He was decorated with the Grand Cross of the Victorian order in 1896. In 1890 he was president of the Royal Society, and at its institution received the Order of Merit in 1902.

About 1899 he resigned his chair at the university, but formally matriculated as a student in order not to break his long connection with that institution. In 1904 he was made Chancellor of the University.

Much of his time after retirement was spent in revising lectures on the wave theory of light, many of which he had delivered at Johns Hopkins University.

His death occured Dec. 17, 1907. As there was no heir to his title, it became extinct.

Kelvin—Godfather of Kelvinator



Lord Kelvin, of whom much is written on this page.

Faraday—Sire of Artificial Refrigeration

Michael Faraday at work in his laboratory—taken from an old print.

Export of Refrigerators

November, 1931, Shipments Reported by the Bureau of Foreign and Domestic Commerce

	Electric Household Refrigerators Number	Value	Electric Commercial Refrigerators Up to 1 Ton Number	Value	Parts for Electric Refrigerators Value
Austria	...	...	...	...	600
Azores and Madeira Islands	1	244	...	...	...
Belgium	25	2,846	1	198	4,864
Czechoslovakia	...	...	...	...	270
Denmark	28	2,521	12	1,120	1,808
France	...	...	11	1,738	3,735
Germany	...	...	...	...	933
Gibraltar	2	428	...	...	33
Italy	...	...	16	1,658	2,882
Netherlands	6	1,003	1	230	1,065
Norway	2	252	...	...	172
Poland and Danzig	...	...	2	363	181
Portugal	4	826	...	...	...
Rumania	...	...	...	...	16
Spain	6	998	7	1,772	1,084
Sweden	1	108	31	4,690	4,971
Switzerland	3	477	3	181	1,633
United Kingdom	407	32,211	61	7,932	13,194
Canada	225	28,296	27	11,844	25,761
Costa Rica	4	655	...	...	43
Guatemala	...	...	...	...	76
Honduras	1	199	...	...	...
Panama	17	3,230	5	1,449	1,443
Salvador	2	245	...	...	...
Mexico	12	1,695	1	247	506
Newfoundland and Labrador	1	53	...	...	86
Bermudas	2	501	1	175	113
Jamaica	3	675	1	234	...
Trinidad and Tobago	1	120	...	...	110
Other British West Indies	1	400	...	...	...
Cuba	60	7,282	6	2,042	1,680
Dominican Republic	27	3,227	...	...	64
Netherland West Indies	16	2,250	...	...	389
Haiti, Republic of	5	740	...	...	41
Virgin Islands of U. S.	...	...	...	...	54
Argentina	137	9,048	40	7,745	14,180
Bolivia	1	164	...	...	...
Brazil	398	54,200	6	525	1,505
Chile	8	1,077	3	1,124	560
Colombia	...	...	...	...	139
British Guiana	1	157	...	...	...
Peru	6	792	8	1,118	431
Uruguay	27	2,885	...	...	527
Venezuela	82	9,449	4	448	715
British India	163	21,223	8	1,902	4,429
British Malaya	35	4,475	4	505	486
Ceylon	4	416	...	...	121
China	...	...	...	...	993
Java and Madura	35	6,728	3	924	562
Other Netherland East Indies	2	299	1	600	...
French Indo-China	16	2,488	1	269	...
Hongkong	7	1,658	...	...	111
Japan	73	9,385	...	...	1,732
Kwantung	7	579	...	...	332
Palestine	3	439	...	...	10
Philippine Islands	30	3,227	1	207	2,192
Siam	4	437	...	...	...
Syria	2	183	1	152	30
Australia	8	1,207	15	2,301	318
New Zealand	10	1,139	...	...	809
Belgian Congo	1	130	...	...	...
British East Africa	17	2,497	1	211	126
Union of South Africa	470	60,393	6	3,657	2,857
Other British South Africa	7	1,170	...	...	...
Gold Coast	4	425	...	...	131
Nigeria	10	1,138	...	...	362
Other British West Africa	...	...	...	...	2
Egypt	2	266	...	...	9
Algeria and Tunisia	2	311	...	...	...
Madagascar	1	280	...	...	...
Other French Africa	4	452	...	...	1
Morocco	2	269	...	...	357
Mozambique	2	138	...	...	22
Canary Islands	2	360	1	250	40
Total	2,445	$290,966	289	$57,811	$101,896
Shipments to Hawaii	259	$ 43,837	71	$17,990	$ 5,618
Porto Rico	42	$ 6,949	6	$ 2,509	$ 389

Letters from Readers

(*Concluded from Page 10, Column 2*)

panies or for that matter in any part of the United States.

Anywhere in this broad country of ours, you will find sufficient brains, ability and capital to handle any situation that may present itself without being subsidized by a charter from the state giving an absolute monopoly of any certain line of merchandising.

The utilities companies are given by the people of the state a charter which not only gives them an absolute monopoly but practically insures a profit on their investment, which is right and proper. Where is there any line of merchandising that requires such protection?

All the merchant asks for or needs from the state is protection against unfair competition from those who are protected by the state.

The individual merchant has no one to fall back on to pay his losses if he attempts to compete with the protected public utilities companies who are in a position to turn their merchandising losses to a profit out of their protected monopoly which makes it most difficult and in many cases practically impossible for legitimate merchants to compete with the utilities companies.

Some branches of the electrical trade are inclined to believe that the utilities companies can be induced to discontinue this illegitimate practice without passing these prohibiting laws or, in other words, they believe that the leopard is capable of changing his spots. That may be true, but it seems highly improbable.

Of course, the utilities companies claim that it is necessary to use these illegitimate methods in order to increase sales of appliances, thereby decrease cost of electrical energy due to the large increase in the use of electrical energy.

That might be said to be true if it were admitted that the utilities companies employed all the technically educated, all the business sagacity and all the salesmanship in the country, but, unfortunately for them, they do not.

In any ordinary business a certain amount of advertising or even sales promotion is legitimate, but only where the merchant pays this cost himself and has no access to the public's pocketbook as in the case of utilities companies.

The utilities companies are given a monopoly of a certain line of business by the state. The state should not allow them to use this privilege in such a way as to compete unfairly with individuals.

That is the real issue involved in the laws prohibiting utilities companies from merchandising and many fair-minded persons see quite clearly the apparent justice in such laws.

To many in the trade, these prohibiting laws and the agitation for such laws in many of the states are bound to increase until practically every state in the Union passes laws protecting the individual dealers as against utilities companies who use their protected monopoly to compete unfairly with the independent dealers.

I. B. WOUNDY.

WEST COAST WESTINGHOUSE DEALERS MEET

LOS ANGELES—In a vastly enlarged merchandising and advertising program, distributors of Westinghouse electric refrigerators in Southern California and Arizona will employ more than 1,000 persons in 1932, according to Ray Thomas, president of Ray Thomas, Inc., Southern California distributor for Westinghouse.

Salesmen and dealers in the territories mentioned assembled at the Mayfair hotel, Jan. 20, for a convention at which R. S. Sanner, director of retail sales of Westinghouse, and C. A. Meier, coast regional manager, were speakers.

NEW FIRM SELLS 69 UNITS IN 8-DAY PERIOD

FLINT, Mich.—Kelvinator-Flint, new Kelvinator distributor started in business Nov. 3, 1931, sold 69 Kelvinator refrigerators between Dec. 16 and Dec. 24, an average of better than eight jobs a day.

Mr. Clark, president of the company, told of this feat at a recent business visit to the factory in Detroit.

GRISWOLD, INC., APPOINTED RANGE DISTRIBUTOR

DALLAS, Tex.—S. C. Griswold, Inc., General Electric refrigerator distributor for north Texas, has been appointed distributor for General Electric Hotpoint ranges in the same area.

To care for the increased organization and to supply added floor space, the firm has moved to the second floor of the Interurban Bldg.

Winners Announced In Bureau Contest

(*Concluded from Page 1, Column 4*)

Utah Power & Light Co., Ogden, Utah.

Honorable mention was awarded to the following:

Windows, less than 50 sq. ft.—Rawlins Electric Co., Rawlins, Wyo.; Central West Public Service Co., Chamberlain, S. D.; Kentucky Utilities Co., Princeton, Ky.; Wilson's, East Radford, Va.; W. N. Hogan, Inc., Wheeling, W. Va.; Associated Gas & Electric System Binghamton, N. Y.

Windows, 51 to 100 sq. ft.—Hines Co., Baltimore; Nebraska Power Co., Omaha; Ohio Public Service Co., Port Clinton, Ohio; Consumers Power Co., Kalamazoo, Mich.

Windows, over 100 sq. ft.—Illinois Power & Light Corp., Galesburg, Ill.; Georgia Power Co., Atlanta; Utah Power & Light Co., Salt Lake City, Utah; Minnesota Power & Light Co., Duluth, Minn.

Interiors less than 200 sq. ft.—Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.; Equitable Sales Co. Gas & Electric Shops, Pittsburgh.

Interiors, 201 to 400 sq. ft.—T. S. Goslin Lumber Co., Wildwood-by-the-Sea, N. J.; Chain Battery & Electrical Service, Inc., Baton Rouge, Iowa; Fakes & Co., Fort Worth, Tex.; Utah Power & Light Co., Provo, Utah.

Interiors over 400 sq. ft.—O. F. Stuefer, Inc., Rochester, Minn.

Special honorable mention to the Philadelphia Electric Co., Philadelphia, for the most effective Christmas window display in the estimation of the judges, without regard to the restrictions of the contest.

It will be noted that in the above list the name of the Utah Power & Light Co. appears three times, its interior display in Ogden receiving one of the prizes and displays in Salt Lake City and Provo winning honorable mention.

Checks for $100 each were mailed to the six prize winners on Friday, Jan. 15.

FRIGIDAIRE INTRODUCES MORAINE LINE OF UNITS

(*Concluded from Page 1, Column 2*)

ing compartment are mechanical and construction features.

The mechanical unit will carry a three-year guarantee, while there will be a one-year guarantee on the finish.

"The new models have been added to our line to broaden our market for 1932," E. G. Biechler, president and general manager of the Frigidaire Corp. stated in commenting on the new development.

All of the new models will carry the Frigidaire nameplate, but the words "Moraine Model" will be inscribed on each nameplate to distinguish the cabinet.

A special film in which cabinet and mechanical features are demonstrated is being used to aid the introduction of the line to dealers.

Advertising and sales promotional campaigns will stress the lowered price range and established Frigidaire features which are being used on the new line, it was stated. Along with the new low prices, advertising copy will stress the small $10 down-payment.

New direct mail literature includes handbills for door-to-door distribution, and postal cards, which announce the new line with its lowered prices.

In addition to the direct mail literature, there will be additions to the dealer's "kit" of materials for promotional and sales helps in the way of window display banners, revised comparative data sheets on the leading makes of refrigerators, and equipment to dress up installation and service trucks.

NORGE INTRODUCES 1932 LINE AT MEETINGS

(*Concluded from Page 1, Column 5*)

which are being made in the recently acquired Alaska plant at Muskegon and traced the growth of sales during 1931.

Carl Brehm, representing the Cramer-Krasselt advertising agency, presented the 1932 advertising campaign in the *Saturday Evening Post* and the dealer helps which have been prepared.

James A. Sterling, sales promotion manager, presented the sales promotion campaign which includes sales tools prepared by him with the assistance of R. E. Caldwell, Cramer-Krasselt agency man. Mr. Caldwell also spoke.

MULLINS REPORTS PROFIT

CLEVELAND—A net profit of $100,094 for the year ended Dec. 31 has been reported by the Mullins Mfg. Corp., makers of Mullins all-steel evaporators. The profit was clear after charges and depreciation, against a net loss of $331,713 in 1930.

In the quarter ended Dec. 31, net loss was $1,495 after charges and depreciation, against a net loss of $300,472 in the final quarter of 1930.

MAJESTIC FORCES TO PUSH REFRIGERATION

(*Concluded from Page 1, Column 5*)

and others in "elasto," a bright finish which R. D. Rolfing, general works manager, maintains is neither lacquer nor paint.

"Easy-Out" ice cube trays, interior lights, and new shelf arrangements are also featured in the new line. One model exhibited was finished in green, and another in black, although these are not part of the standard line.

Only minor changes and realignments have been made in the Majestic hermetically sealed refrigerating machine, which stands today practically the same machine as the one which was first introduced. (A complete description of the 1932 Majestic line will appear in the forthcoming *Engineering Section* of ELECTRIC REFRIGERATION NEWS.)

John Ditzell, sales manager of the newly created refrigeration department, made his debut in his new role in vigorous and forceful fashion.

According to Mr. Ditzell, features of the 1932 Majestic line came as a result of suggestions by distributors and salesmen out on the firing line, who reported back to the management what the buying public seemed to want.

He, too, stressed the necessity for Majestic distributors to concentrate on the sale of electric refrigerators this year, and emphasized the desirability of organizing a separate department to handle refrigerators and of getting trained refrigerator men to direct it.

"Ten factors are important in the selling of electric refrigerators," averred Mr. Ditzell. "They are (1) the potential market; (2) competition; (3) production facilities; (4) dealer attitude; (5) consumer attitude; (6) educational work; (7) suitability for exploitation; (8) timeliness; (9) individuality; and (10) prestige."

Enlarging upon these individual factors, Mr. Ditzell analyzed Majestic's position and pointed out the Majestic relation to each.

At the Thursday noon luncheon in the Edgewater Beach hotel, George F. Taubeneck, editor of ELECTRIC REFRIGERATION NEWS, analyzed the 1931 sales statistics of the electric refrigeration industry, called attention to current trends in merchandising, and indicated lines of future development and growth of the industry.

Enlivening the banquet at the Edgewater Beach Monday night was a good floor show and a sales skit presented by Poke Gealt, Majestic radio sales promotion manager, Ray Boaz, Lance Underhill, and Mary Browne.

The skit portrayed the recreation and renovation of a Majestic refrigeration salesman. Run over by an ice wagon when he was standing in the middle of a street at midday reading a newspaper, the salesman was rushed to a hospital.

There surgeon Gealt operated on the salesman (Ray Boaz), to "get the lead out" and removed a paperweight. Next he was given an injection of "confidence," a serum composed of grams of Majestic advertising, sales helps, etc.

As the skit closed, the salesman was getting the doctor's signature on a big dotted line.

Friday's sessions were concluded with a presentation of the 1932 Majestic refrigerator advertising program, presented by Earl Hadley, advertising manager.

This program, according to Mr. Hadley, will be the most extensive yet conducted on Majestic refrigerators.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE is paid in advance—Positions Wanted—fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Building, Detroit, Mich.

POSITIONS AVAILABLE

WANTED—Electric Refrigerator Test Engineer with good, practical experience on both production and engineering tests. Man with college education or its equivalent preferred. Answer in own handwriting and give ALL INFORMATION about yourself in first letter. Box 414.

POSITIONS WANTED

SERVICE or installation man for commercial or household equipment. Thorough technical training, practical experience, clean character, excellent recommendations. Single, can travel anywhere. Salary not main object. Connection with reputable concern of prime importance. Have own modern tools. Box 410.

YOUNG American, college trained, proven sales and executive ability, willing to travel, pleasing personality, experienced with household equipment. Employed at present in own business, formerly managing director of Norge British firm in Buenos Aires, Argentina. Well connected in U. S., western Europe, eastern, southern and central America. Familiar French and Spanish. Box 411.

MANUFACTURER, advertising agency, investigate this opportunity to acquire man with wide experience in refrigeration advertising and sales promotion. Has planned and written successful national magazine and newspaper refrigeration campaigns. Capable of taking advertising reins of new or established concern. Plenty of ideas and energy. Now employed. Can produce gilt-edged references. Salary reasonable. Write today. Box 415.

EQUIPMENT WANTED

WANTED—Commercial equipment. Frigidaires, Kelvinators in any condition. Any kind of expansion coils wanted. Have for sale Servels, Iroquois and Copelands, compressor and cooling coil: $25.00 without motor. B. L. Williams, 1004 Pa. Ave., N. E., Washington, D. C.

WANTED for cash, 100 good condensers, complete with motors for A. C. current, 110-V., 60-cycle. Also could use 100 boilers for boxes 4 to 6 cu. ft. Give full description and best price. Aircrest Electric Co., 6504 S. Halsted St., Chicago, Ill.

LAWRENCE APPOINTED AIDE TO SEROY OF MAYFLOWER

SAN FRANCISCO—R. J. Lawrence, for several years manager of the Mayflower commercial refrigeration department, has arrived here to be associated with W. J. Seroy, Pacific Coast representative. In the future Mr. Lawrence and Mr. Seroy will represent the Trupar Mfg. Co. jointly in this territory.

Mr. Lawrence was formerly with Frigidaire, having been at one time manager of the Frigidaire commercial department in this territory. He has been with Mayflower for three years, specializing in educational work and sales engineering among the distributors.

SUBSCRIPTION ORDER

Business News Publishing Co.,
550 Maccabees Bldg.,
Detroit, Mich. 1932

Sirs:

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☐ ELECTRIC REFRIGERATION NEWS only ☐ 1 year ☐ 2 years.

☐ REFRIGERATED FOOD NEWS only ☐ 1 year ☐ 2 years.

☐ 1932 REFRIGERATION DIRECTORY (To be issued in February, $2.00 per copy).

☐ ELECTRIC REFRIGERATION NEWS and REFRIGERATED FOOD NEWS. Combination rate for both papers ☐ 1 year ☐ 2 years.

SUBSCRIPTION RATES (Effective Jan. 1, 1932)	Electric Refrigeration News		Refrigerated Food News		BOTH PAPERS	
	1 Yr.	2 Yrs.	1 Yr.	2 Yrs.	1 Yr.	2 Yrs.
In United States and Possessions and all countries in Pan-American Postal Union	$3.00	$5.00	$1.00	$1.50	$3.50	$6.00
In Canada (where new tariff of 5 cents per copy applies). Payment in U. S. money.	$6.00		$2.00		$7.00	
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